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BOULEVARD LIGHTING IN BINGHAMTON

Tungsten Lamps on Combined Lighting and Trolley Poles—Conduits for Wires—Mail Box and Fire Alarm Posts—Construction of Conduits—Details of Manholes and Appurtenances.

By JOHN A. GILES, City Engineer.

The city of Binghamton has recently installed on Court street, between Exchange street and the Chenango river, a distance of 1,500 feet, a system of boulevard lighting which has materially improved the appearance of the principal thoroughfare of the city and awakened the citizens to a greater sense of civic pride, which will undoubtedly lead in the near future to further extensions of system to other streets in business districts.

Work Done.—In addition to the lighting poles, a conduit system was installed to care for all existing wires on the street and for any future expansion of the underground system. To avoid hindrance to street car traffic during construction and cutting up the brick pavement by long laterals, a 15-duct conduit was installed on the north side of the street and a 10-duct conduit on the south side of the street, about 3 to 5 feet distant from the curb, making the only crossings of Court street those at street intersections.

The corporations occupying the conduit are the city of Binghamton (for fire alarm and police call wires), the York State Telephone Co., the Postal Telegraph Co., the Binghamton Light, Heat and Power Co, and the Binghamton Railroad Co.

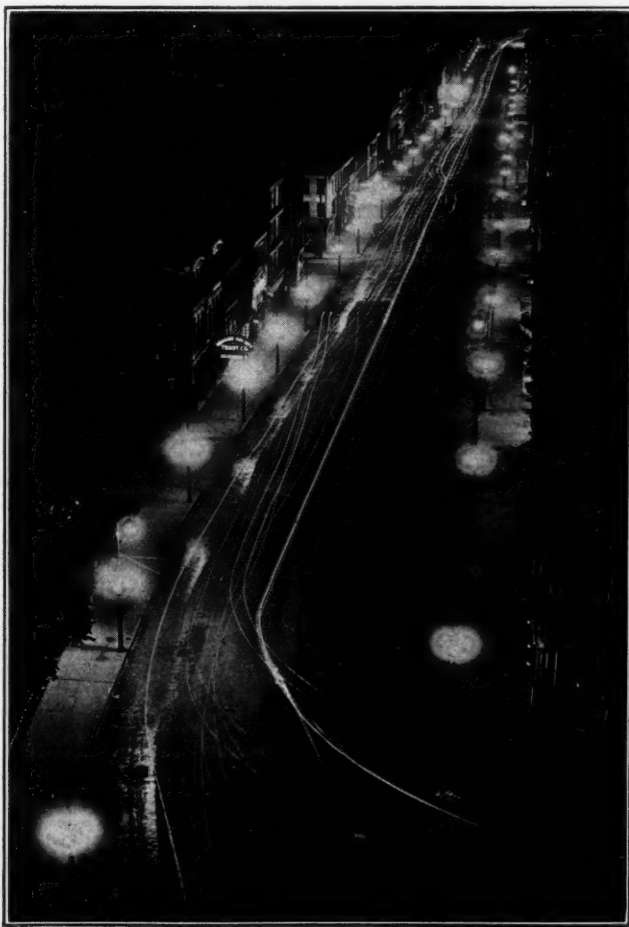
The New York Telephone Co. (Bell) already had a conduit system installed, and by means of this conduit and rear block distribution was enabled to entirely remove its overhead wires.

Conduit Work.—Single duct vitrified clay conduit was laid to the extent of 44,000 duct feet, the high and low tension ducts being laid in the same trench, but separated at the manholes where they

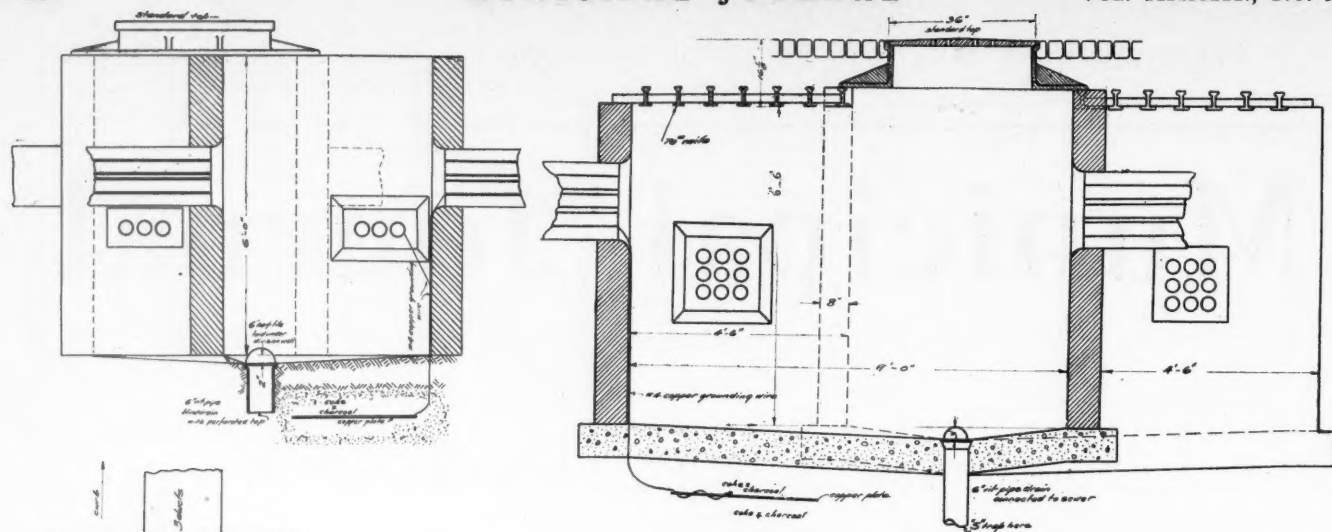
entered the high and low tension chambers respectively. Laterals were extended from the main conduits on intersecting streets to a point about 125 to 200 feet from the street line of Court street and ending at a terminal pole leading to overhead distribution. These laterals are so designed as to accommodate a future extension on these streets when necessary. This arrangement allowed the removal of all wooden corner poles.

One and one-half inch and three inch iron pipe laterals extend to the base of all fire alarm boxes, police call boxes and lighting poles, and every separate piece of property is provided with a lateral to the inside of the cellar or area wall.

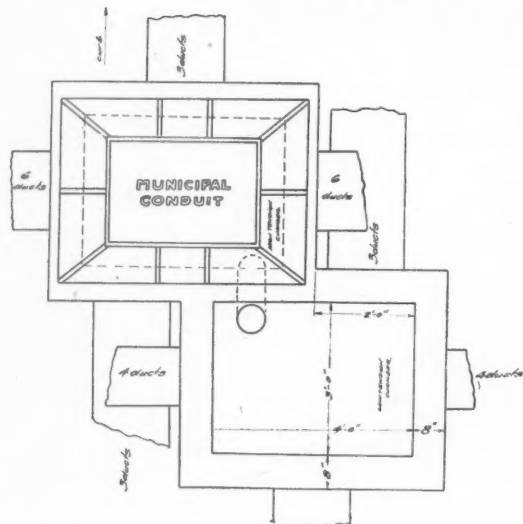
Alternate bids were received on tile and fibre ducts and the former was selected because the price was lower and the material equally satisfactory. Instead of multiple duct conduits, single duct conduits laid in concrete were employed in order to avoid the possibility that, in case of a burn-out in the high-tension cable, the current might shoot across the joints in the multiple duct and destroy the low-tension cables. To prevent this the single-duct conduits were laid with broken joints both horizontally and vertically. The tile was laid on a base of 1:2:5 concrete 3 in. thick, and 3 in. of concrete was placed at the sides and at the top of the conduit. The tiles were 18 in. long and 4 in. square and were kept in line and clear of deposit by the aid of mandrels 18 in. long and 3½ in. square, the mandrels being left about 5 ft. back of the heading and pulled forward by an iron rod. On the completion of



NIGHT VIEW, LOOKING WEST FROM CHENANGO ST.

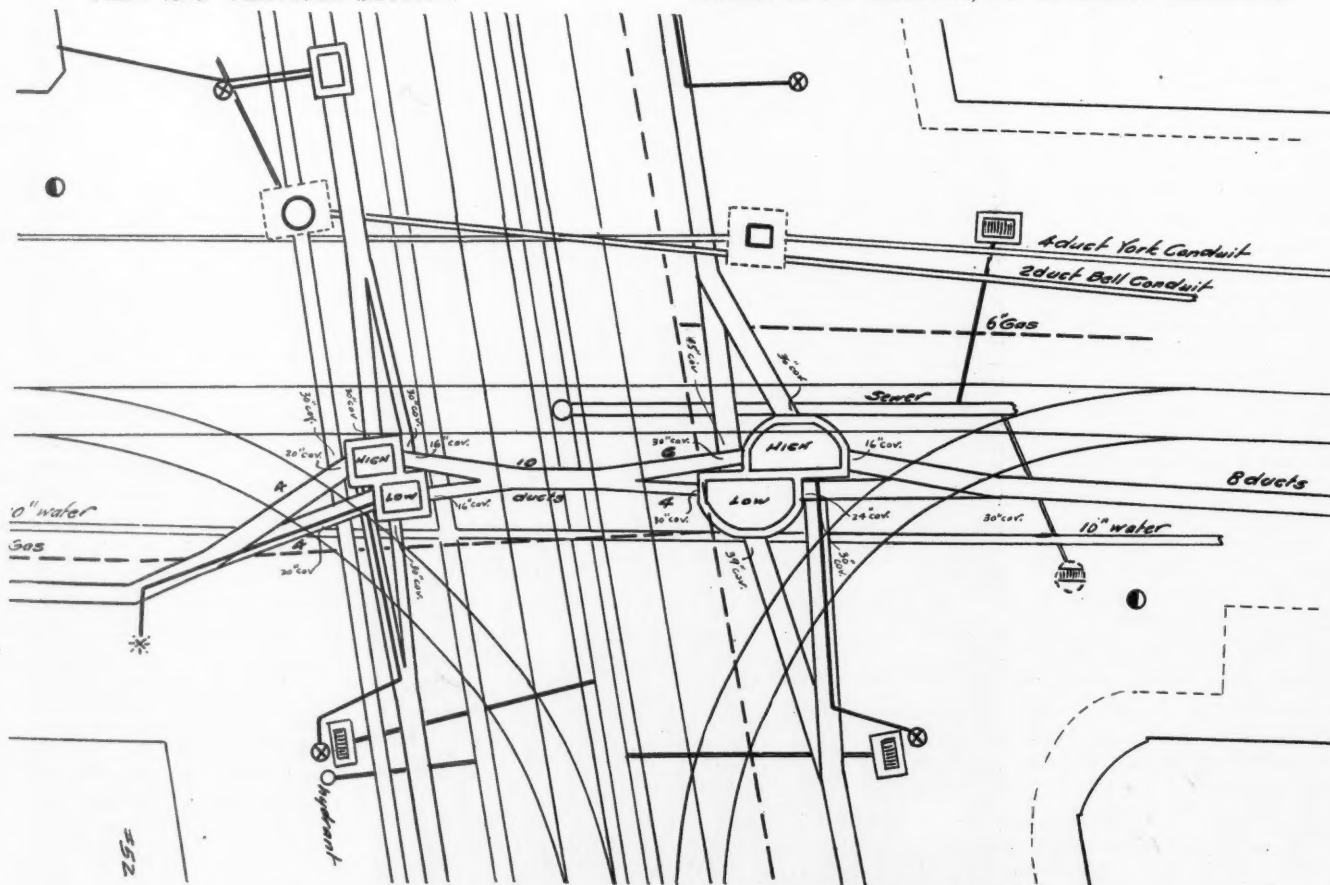


TYPICAL MANHOLE.

TYPICAL JUNCTION BOX
PLAN AND VERTICAL SECTION.

the work every duct was tested by drawing a mandrel 12 in. long and $2\frac{3}{4}$ in. square from manhole to manhole; and only one duct was found broken, this being occasioned by a pick having been driven through it by a workman. All duct joints were cemented with neat cement. All conduits were laid on a continuous grade from manhole to manhole to provide drainage, and no pockets exist in the line.

The manholes were built of brick with 8 in. walls on concrete bottoms, and for drainage were connected to the sewer, these connections being trapped with a Miller back-water ball trap. The manhole tops were of cast-iron supported on 70-pound T rails, the latter being so spaced that brick placed endwise to the rails filled the space between them and were supported by the lower flanges of the rails. The junction boxes were constructed similar to the manholes, but of smaller dimensions.



THE MUNICIPAL SUBWAY AT A COMPLICATED STREET INTERSECTION.
Cross in circle, boulevard light. Half Moon, U. S. mail post. Star, police call.

Each manhole and junction box had installed in it, beneath the concrete floor, a copper plate bedded in charcoal for grounding purposes, which is connected with the sheath of the cable by a copper wire to prevent electrolysis.

Service boxes were built of concrete, the top row of ducts terminating at one end of the box and beginning at the other end. Service connections of 3-inch iron pipe led from these boxes to the buildings.

Although a number of pipes and other underground structures already existed in the streets, no unusual difficulties were encountered in constructing the conduits for the reason that before the work was started a very careful survey was made of all existing sub-surface lines and, where there was any uncertainty about hidden pipes which the records did not show, test pits were dug at the intersections of the cross streets at the locations of the proposed manholes, and diagonally to the same. In several cases the gas and water mains at these intersections were carried in the division walls of the manholes in a sand pocket.

The excavation for the trench was through 4 inches of vitrified brick, the 6-inch concrete base of the same and gravel. In replacing the brick pavement all small or broken pieces were removed back to the joint and the surface restored to its original condition. The pavement was not replaced until after the trench had withstood an unusually hard winter, and it is difficult now to distinguish where the conduit was laid.

Boulevard Lighting Poles.—The poles installed are of the type known as the combination boulevard lighting and trolley pole, equipped with four 80-candle-power tungsten lamps with 12-inch opalescent globes.

This combination type was selected for the reason that it was impossible to obtain building attachment for the trolley span wires, due to long legal procedure, and if separate trolley poles were installed it meant the addition of about 40 poles along the street.

Thirty-eight boulevard poles were set along the improved section, spaced about 75 feet center to center, and eight of these poles (those at street intersections) are provided with goose-necks from which are suspended Adams & Bagnall 7.5-ampere flaming arcs, at an elevation of 25 feet from the street surface.

The tungstens are operated from dusk until 12 p. m. and the arcs are then turned on to burn from 12 p. m. until daylight. This system is operated every night except Saturday night or special occasions, when both are operated as shown in the night photograph.

All tungsten lamps are provided with shock absorbers to protect the filaments from breakage due to the jar of the trolley suspension or span wires.

All combination poles are standard weight except at intersecting trolley lines, where extra heavy poles are used to provide for the strain on curved trolley suspension work.



COURT ST., WEST FROM CHENANGO BEFORE IMPROVEMENT.



COURT STREET WEST FROM CHENANGO, AFTER IMPROVEMENT.

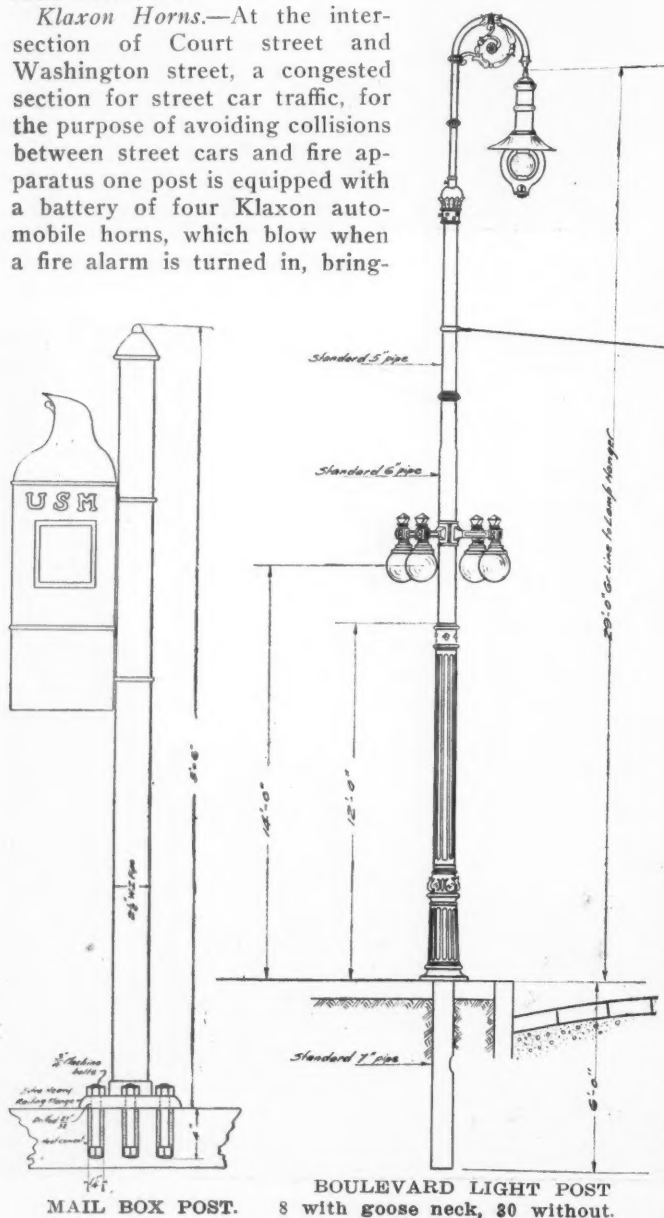
The 80-candle-power tungstens and 7.5-ampere flaming arcs are operated on an alternating current, three-wire, grounded neutral, multiple system.

The boulevard poles were assembled on the ground in a horizontal position and placed in the sidewalk by means of an A-frame derrick mounted on a horizontal truck. The steel tube extends 6 feet below the sidewalk and is encased in concrete 10 inches thick around the shell and inside of the shell up to a point level with the lateral connection to the service box. In 10 sub-surface vaults or areaways the steel tube was encased in a concrete pier 18 inches thick at the base and tapering to 10 inches thick at the floor line.

All poles were set with the top two inches out of plumb, leaning toward the building line, to provide for the strain brought upon them by the trolley suspension wires, this amounting to 900 pounds per pole. When this strain was applied by the hanging of the trolley wire the poles assumed a vertical position.

U. S. Mail Box Posts.—All mail boxes and package boxes were removed from the corners at the intersection of the curb lines and placed on special posts situated near the curb line on the intersecting streets and back of the street line of Court street. The boulevard posts at the corners are set on the street line of the intersecting streets, thus leaving an unobstructed sidewalk at each intersection.

Klaxon Horns.—At the intersection of Court street and Washington street, a congested section for street car traffic, for the purpose of avoiding collisions between street cars and fire apparatus one post is equipped with a battery of four Klaxon automobile horns, which blow when a fire alarm is turned in, bring-



ing all street cars to a standstill until the apparatus has passed this point.

Cost.—The contract for doing the entire work was awarded to G. M. Gest, of New York City, and the poles were furnished by the Ornamental Lighting Pole Co. The contract prices for this work were as follows:

For laying in place all conduits and laterals complete, including excavation, back-fill and replacing of pavement:

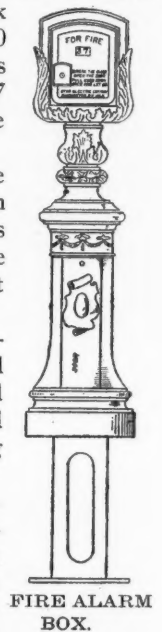
15 way conduit.....	17½c	per duct foot
10 way conduit.....	22c	per duct foot
8 way conduit.....	23c	per duct foot
6 way conduit.....	24c	per duct foot
4 way conduit.....	32c	per duct foot
3 inch iron pipe laterals.....	58c	per lineal foot
1½ inch iron pipe laterals.....	52c	per lineal foot
Double manholes complete.....		\$365.00
Double junction boxes complete.....		138.00
Service boxes.....		40.00
Cast-iron curb boxes.....		9.00

Boulevard lighting poles erected in place complete, wired from the base of the pole to the fixture and equipped with four 12-inch ball shades, standard weight, \$70; extra heavy poles, \$80. Goose-neck extensions for suspending arc lamps, \$8.50 additional. The fire alarm posts and boxes cost \$85 each, the U. S. mail box posts \$7 and the wooden terminal poles \$15. The total cost of the work was \$22,059.10.

The price paid for the current for the above lights is \$89.50 per year for each cluster of four 100-watt tungsten lamps and \$115 per year for each 7.5-ampere Adams-Bagnall flaming arc, the contract being for three years.

Method of Financing the Proposition.—The money for financing the proposed work was raised by a bond issue sanctioned by the taxpayers at a special election, and no assessment was levied on the abutting property owners on Court street.

Occupancy and Rentals.—By an agreement with the local public service corporations the various companies occupying duct space are to pay the city a rental price per duct foot, the amount to be fixed by the Common Council of the city. This rate has not as yet been established, awaiting the installation of all the cable, but it will probably not exceed 6 cents per duct foot per year, it being the intention to make the total rental pay for the interest on the bonds.



BUNCHING SEWER CONTRACTS.

The city of Janesville, Wis., is required by law to make a separate contract of the sewer work which is done in any one sewerage district, and is thus apparently prevented from obtaining the advantage which might result from awarding one large contract to cover the work done in two or more districts. In order to obtain this advantage, it is their practice to allow contractors, when making their bids, to do so on the condition that bids made by them for small contracts were to be accepted only on the condition that they were awarded the contracts on certain larger work which was being let at the same time. This has enabled the city in nearly every instance to award all the work which they are carrying out in any one season to the same contractor in favorable terms, but in a number of contracts. This method has the added advantage of allowing the work to be taken up in the several districts in succession, that in one district being completed and the payment therefore made in full, to the contractors advantage, before that in the next is begun or has progressed very far.

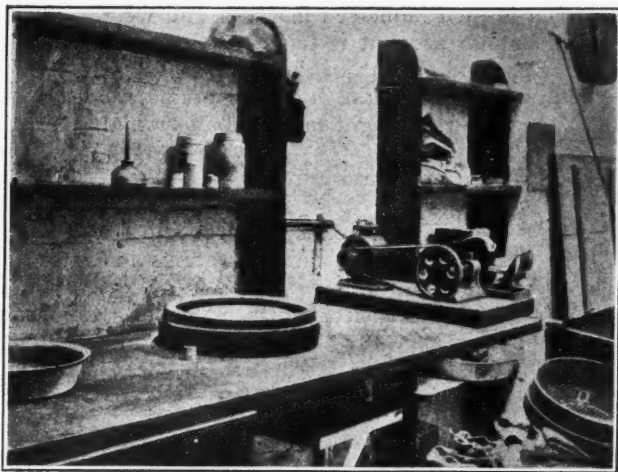
TESTING ROAD METAL

Diamond Saw—Grinding Lap—Abrasion Machine—Binding Power—Specific Gravity—Interpretation of Results.

(Continued from page 249.)

Diamond Saw.—For sawing the cores to the proper length in the preparation of specimens, a diamond saw is used. It consists of a steel disk, about 5 inches in diameter by 0.02 of an inch thick, around the circumference of which diamond dust is held in radial slots. This saw is driven by a small electric motor at a speed of 600 revolutions per minute.

Grinding Lap.—In the preparation of the faces of hardness and toughness specimens, a grinding lap, 9 inches in diameter, driven at 400 revolutions per minute, is used. The abrasive agent is finely powdered emery.

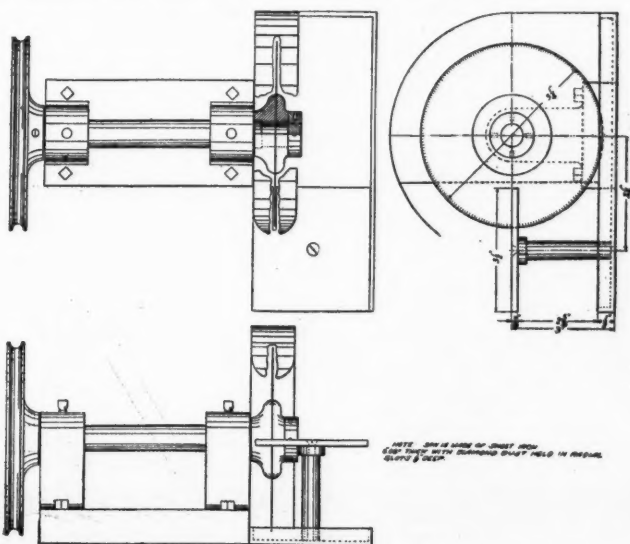


GRINDING LAP AND DIAMOND SAW.

Abrasion Test.

The abrasion test, as performed in the Deval abrasion machine, tests the hardness as well as the toughness of rock, and much valuable information has been obtained on the wearing qualities of rock since this test was originated in the French School of Bridges and Roads.

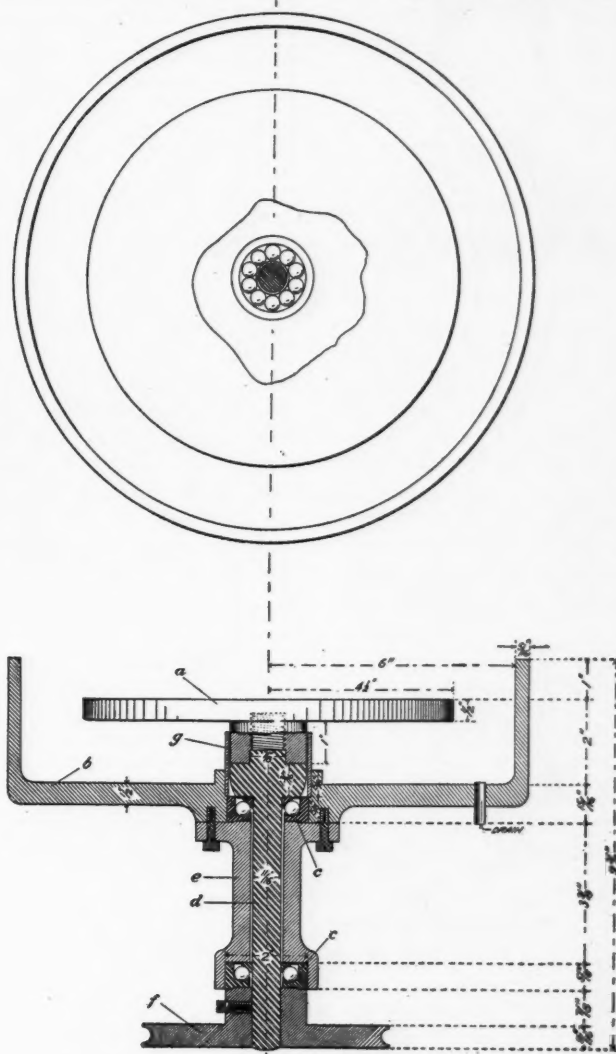
Abrasion Machine (Deval Type).—The Deval machine consists essentially of the pulley A (or worm gear and motor, direct connected, as used at present) driving the shaft BB, upon which are mounted the four cast-iron cylinders CCCC in such a way that the axes of the cylinders are inclined at an angle of 30° with the axis



DETAILS OF DIAMOND SAW.

of rotation. These cylinders are 20 centimeters in diameter and 34 centimeters in depth inside. The shaft is set in the three bearings DDD and carries at E a commutator ring for operating an electrical revolution counter, which is not shown. The method of fastening the cylinders to the turning frame is shown at B'.

The rock is broken in pieces, as nearly uniform in size as possible, and as nearly 50 pieces as possible constitute a test sample. The total weight of rock in a test is within 10 grams of 5 kilograms. All test pieces are thoroughly dried before weighing. Ten thousand revolutions, at the rate of between 30 and 33 to the terial worn off which will pass through a 0.16-centimeter



DETAILS OF GRINDING LAP.

(1/16-inch) mesh sieve is considered in determining the amount of wear. The amount of wear is expressed either in the per cent. of the 5 kilograms used in the test, or else the French coefficient, which is in more general use, is given, viz.:

$$\text{The coefficient of wear} = 20 \times \frac{20}{W} = \frac{400}{W} = \frac{40}{\text{per cent. of wear.}}$$

Here W is the weight in grams of the detritus under 0.16 centimeter (1/16-inch) in size per kilogram of rock used.

In this test the sample is thrown the length of the cylinder twice at each revolution, so that the individual stones grind against each other, as well as against the sides of the cylinders. The rocks are likewise some-

25 fair; from 26 to 75, good; from 76 to 100, very good; and above 100, excellent.

It is manifestly impossible, because of the varying conditions of traffic and climate to which roads are subjected, to give rock samples a numerical grading of excellence from the results of laboratory investigation. But a very accurate idea of the relative values of certain stones for any given road may be obtained from the laboratory results.

The ideal rock for constructing a macadam road is one which resists the wear of traffic, producing just enough dust to furnish cementing material. If the road is very lightly traveled a softer material with good cementing value would be preferable to a hard, tough rock. On the other hand, where a road receives heavy travel a harder, tougher rock would be preferable. The intelligent interpretation and application of the laboratory tests in any specific instance requires a knowledge of the character of the traffic to which the road is to be subjected the character of the material under examination, and the behavior of similar material in actual service.

Equipment of a Road-Material Testing Laboratory.

The following list of apparatus should prove of service to those contemplating the equipment of a routine road-material testing laboratory. Three assistants and one engineer have tested as high as 36 samples per week with this apparatus and no trouble should be experienced in maintaining an average of 24 samples per week.

- 1 Deval abrasion machine having 4 cylinders.
- 1 impact testing machine for toughness test.
- 1 Dorry hardness testing machine.
- 1 cementing-value impact testing machine.
- 2 ball mills.
- 1 cementing-value briquette-forming machine and mold.
- 1 diamond core drill.
- 1 diamond saw.
- 2 grinding laps.
- 1 small aw crusher.
- 1 small disk grinder.
- 1 large drying oven.
- 1 platform scales (500 pounds— $\frac{1}{4}$ pound).
- 1 scale (5 kilograms— $\frac{1}{4}$ gram).
- 1 chemical balance (100 grams—0.01 gram).
- 1 desiccator for cooling cementing-value briquettes.
- 1 dozen 3-quart enameled pans for holding rock samples before and after the abrasion test.
- 1 dozen 1-pint Mason jars.

- 1 each of the following graduates: 100, 500, and 1,000 cc.
- 1 200-cubic centimeter beaker for specific gravity.
- 1 thermometer for oven.
- 1 room thermometer.
- 1 15-inch sieve, No. 40 mesh.
- 1 15-inch sieve, $\frac{1}{8}$ -inch mesh.
- 1 set of sieves for mechanical analysis, including the following sizes: $1\frac{1}{2}$ inch, $1\frac{1}{4}$ inch, 1 inch, $\frac{3}{4}$ inch, $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, $\frac{1}{8}$ inch, 10, 20, 30, 40, 50, 80, 100, and 200.
- 100 sample bags (burlap), 17 inches square when empty.
- 500 blank tags.
- 1 50-pound anvil.
- 1 10-pound sledge.
- 1 3-pound double-face stone hammer.
- 1 $1\frac{1}{2}$ -pound single-face stone hammer.
- 1 6-inch scoop.
- 1 barrel of quartz sand between No. 30 and No. 40 sieves.
- 1 50-pound bale of waste.
- 1 galvanized-iron waste can.
- 1 oil can and motor oil.
- 6 sink scrub brushes.
- 1 cubic foot measure.
- 1 $\frac{1}{4}$ -cubic foot measure.

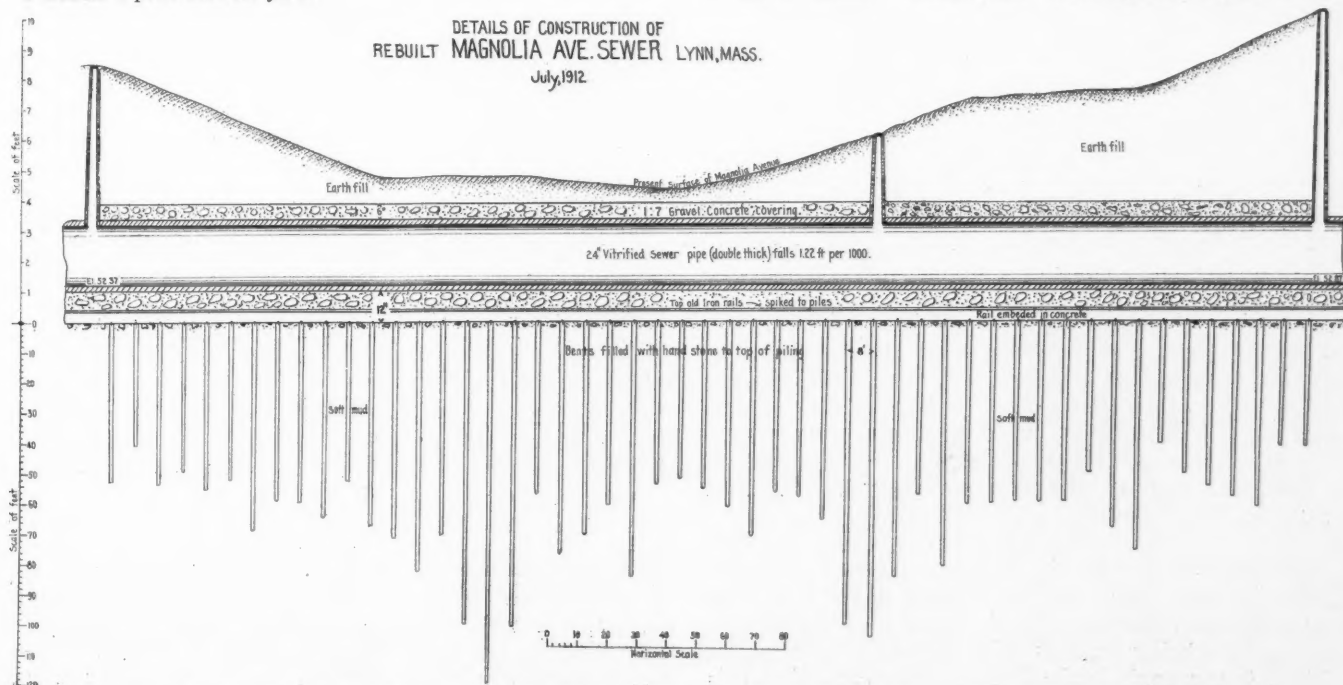
RECONSTRUCTING A SEWER IN LYNN

Settling of Large Pipe Sewer Laid Across Bog—Method of Reconstructing in Concrete on Pile Foundation.

By WILLIAM L. VENNARD, City Engineer, Lynn, Mass.

Two years ago a sewer was built in Lynn, Mass., known as the Magnolia avenue sewer, which has recently failed and the reconstruction of which is now about completed. This Magnolia avenue sewer never should have been built across the pond or bog where it was placed, but this location was due to the influence of members of one of our former boards. George I. Leland, at that time city engineer, recommended that the trunk sewer could better be built along another route, which would avoid the pond and deep mud, and this location was selected much against his will.

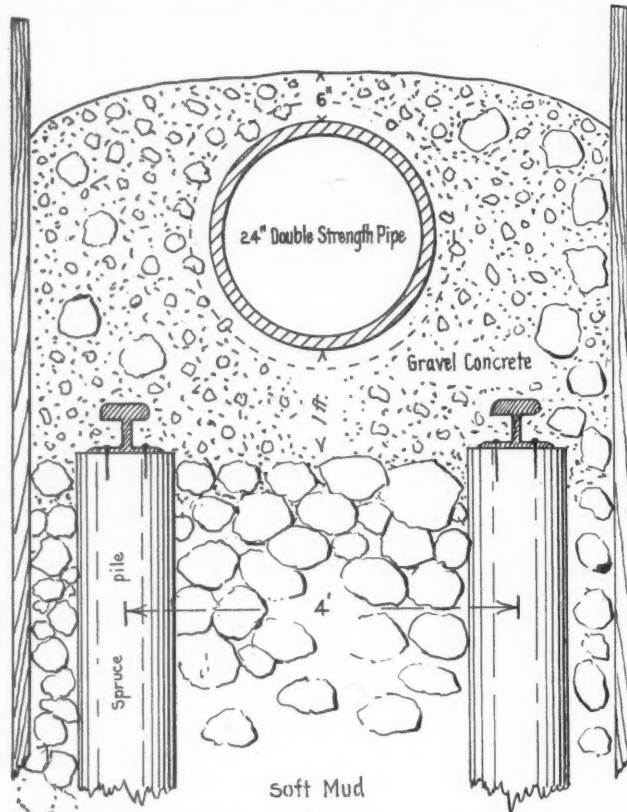
Prior to construction, soundings with rods were taken from a boat, which showed mud 40 feet deep, at which depth there was an apparently hard bottom. It was proposed to support the sewer on a pile foundation, and a contract for this was let, under which piles were driven in pairs to an apparently hard bottom from 10 to 40 feet below the mud surface, a 1,000 pound hammer being used to drive them. These piles were spaced about 8 feet



LONGITUDINAL SECTION OF MAGNOLIA AVE. SEWER, SHOWING CONSTRUCTION DETAILS.

apart along the line of the sewer and were sawed off to a uniform grade and capped, and flooring placed thereon. On this floor was laid double strength 24-inch. pipe resting upon a sand cushion.

For a considerable distance this pipe was covered with only 2 feet of earth. Five-ton trucks and other heavy loads drove over this pipe with its insufficient covering, which resulted in the crushing of the pipe for a distance of 410 feet. The pipe was then dug up and examined and it was found that the foundation piles and flooring had settled, the maximum settlement being about 2 feet. The alignment of the piles had remained good. It appeared evident that the foundation provided had been insufficient and a new construction was, therefore, designed.



CROSS SECTION PLAN OF NEW SEWER CONSTRUCTION.

Under this new construction, which was carried out this year, new piles were provided spaced 8 feet apart as before, driven between the bents of the old foundation and to a firm bearing by a 2,700-pound hammer with a 12-foot drop. In driving these, it was learned that there was a hard stratum of soil at about 40 feet depth, under which there was again soft material to a considerable depth. The heavier hammer drove the piles through this thin, hard stratum and many of them reached to such a depth that sleeve splicing was resorted to; the spliced piles varying in depth from 30 to 120 feet. The varying depths to which they were driven, as well as the general construction, are shown in the accompanying profile and cross section. After being sawn to a sub-grade of one foot below the floor line, old iron rails were applied to the top of the piles, railroad fashion. A ditch was then excavated a few feet into the mud along the line of the piles and was refilled to the top of the piles with hand stone, on which was placed gravel concrete mixed one to six, the sewer pipe being embedded in this. New double-strength sewer pipe was used and the concrete was carried up the sides and over the top, there being 6 inches thickness at the latter point.

There is one angle in the line of the sewer and at this a concrete manhole was placed. The sewer has now

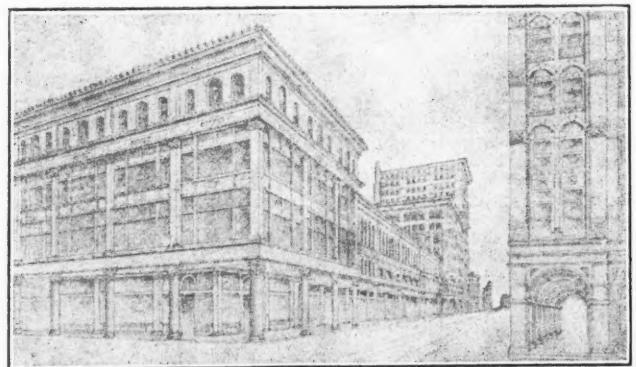
been refilled to a depth of about 2 feet above the top, and more filling will be placed soon. The street surface over the sewer will remain fenced off until at least four feet of earth covers the concrete.

This work included 6,570 feet of spruce piles and about 304 cubic yards of concrete. As the piles were sawn off to one foot below the water in the surrounding pond, centrifugal pumps were kept busy keeping the trench dry. There seems to be little doubt that part of the settlement of the old pile foundation and sewer was due to constant filling in of the swamp along each side of the line of the sewer. This settlement would naturally be accompanied by a corresponding rising of the muddy pond bottom near the toe of the fill, and it is now proposed to fill with ashes and refuse material of all kinds for a long distance on each side of the sewer and for a depth of 5 or 6 feet over it.

ARCADES FOR WIDENING STREETS.

One of the most important and at the same time narrowest thoroughfares of St. Paul, Minn., is Robert street. Among the propositions for widening this, one of the most novel is that advanced by G. H. Herrold, office engineer of the city engineering department. His idea is to remove the present sidewalks together, placing the curb line at what is now the building line, and provide sidewalks by building arcades within the present building line. By this plan the buildings as a whole need not be materially changed above the first floor, but the show windows or store fronts would be moved into the building about 12 feet. The present supporting columns under the front walls would be replaced by columns of uniform design for each entire block, for the architectural effect, although it would not be necessary for the support of the buildings. This 12 feet would then be finished off as an arcaded sidewalk similar to those found in Chester, England, and in Italy, Spain and France. A similar sidewalk originally constructed in this way in the town of Venice, Cal., was illustrated in our issue of June 6, 1912.

Concerning arcade sidewalks Mr. Herrold says: "Their original development was due, no doubt, to climatic conditions, the warmth of the mid-day sun making necessary this protection for comfort's sake. Arcade sidewalks are in no way out of place in this northern climate. They are a protection from the rain and snow as well as the sun. Pedestrians are safer from the accidents of



PROPOSED ARCADE SIDEWALKS IN EXISTING BUILDINGS.

the streets and would escape much of the dust and dirt. Show windows are not exposed to the glaring light and can be made much more effective. It may be questionable whether there are any arguments in favor of outside sidewalks in a retail district, and whether the man who invented them has anything to his credit."

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CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper, either in the form of special articles or of letters discussing municipal matters, are invited and paid for.

Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

AUGUST 29, 1912.

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Using Technical Papers.

Visitors to the offices of city engineers, superintendents of water works, highways and of other men engaged in the supervision of the physical improvements of cities find a more or less common sight to be that of a pile, larger or smaller, of technical papers which have not even had their wrappers removed, but which have been laid aside by the busy recipient until he can find time for their perusal.

Our own experience enables us to fully understand and sympathize with the conditions under which periodicals are thus neglected, but we believe that those who follow this practice are getting into a bad habit which may sometime prove of serious disadvantage to them. We could cite instances where engineers have desired information in preparing plans or carrying out construction, without which they have been unable to carry out the work in question to the best advantage, and yet which could have been found in one or more of the technical papers which lie unread in their office. They thus wasted time in devising methods for the solution of problems which have already been solved more satisfactory by others.

We appreciate the fact that during a few weeks or months in the busiest season it is practically impossible for them to read all or even a considerable part of the current literature pertaining to their profession; but

we believe that every man owes it to himself and to those by whom he is employed to know what information is available for the solution of problems which confront him. In order to keep posted on this, he should at least open each one of the periodicals which deal with the practices of his profession and read the headings of the articles therein, with perhaps a glance at the introduction and concluding paragraphs, in order to gain an idea of what is treated of in them. This would take not more than ten or fifteen minutes and, if done with a mind concentrated on the matter, would leave an impression on the memory which would enable him to refer back to these articles should any similar matters come up in the future; or he would at least remember that an article dealing with this subject has appeared in some of the periodicals during the past month or two and that it would be worth while to spend a few minutes looking for the same. We urge every engineer or official engaged in municipal improvement work to open every periodical within 24 hours after he receives it and make such brief but careful examination of its contents.

A considerable number are also lax in availing themselves of this information in still another way. For instance, we have several times been asked by subscribers for information which has been given in some of the departments of Municipal Journal following the News of the Municipalities, and on referring them to the matter in question have been informed by them that they had entirely overlooked the fact that this class of information was given by this paper. We would therefore urge that all readers get acquainted with the paper by examining carefully at least four consecutive issues, going through them from cover to cover. We specify four for the reason that certain of the departments may be occasionally omitted, but especially because one of them—the Municipal Index—appears only once a month. In this Municipal Index we endeavor to list all articles of any importance dealing with municipal topics which have appeared in all of the leading American periodicals and a considerable number of foreign ones during the month immediately preceding. From this, readers may ascertain all which has been published concerning any given subject in the technical press. In the department of News of the Municipalities we endeavor to keep them informed of the doings and happenings within the field covered by this journal in all of the cities of the country, most of this being of a news rather than a technical character. We also give, in the Legal News department, a synopsis of the decisions of the Supreme Courts, Courts of Appeals or other higher courts, both state and federal, concerning matters in which city governments or officials are involved or interested. The doings, past and future—especially the conventions—of the several societies more or less intimately concerned in municipal matters are given on another page. In still another department we describe the latest inventions or improvements in machinery and appliances used by municipalities; and in still another we note and illustrate the latest patents issued for appliances of this kind. Eight or ten pages each week are devoted to news concerning municipal contract work, and yet we have had subscribers inform us that they were unaware of the kind of information given in these pages until we had called their attention to it in the course of correspondence with them.

By thus learning just what classes of information are given in this journal (or any other), and by a careful examination of topic headings each week (where more careful reading of the paper is prevented by lack of time) those for whom the paper is published will be able to use it to their advantage and obtain from it, we hope, a large part of the benefit which we are confident it is able to render them.

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Fire and Police Items—Government and Finance.

ROADS AND PAVEMENTS

Photograph to Show Road Work.

Ashland, Wis.—The manner of constructing the Ashland County road is considered to be of such thoroughness that the State Highway Commission is to have a photograph of the various stages shown at the State fair as a means of educating other counties along the lines of modern and scientific road improvements.

To Pave Thirteen Blocks.

Brunswick, Ga.—Work on the largest street-paving contract in the history of this city will be started Sept. 1, contract for which was let by City Council several weeks ago. In all thirteen of Brunswick's blocks, mostly in the business section, will be paved, and when this work is completed this city will have more than two miles of vitrified paved streets.

Highway to Link Two Counties.

Rome, Ga.—The Commissioners of Bartow County have secured the services of Kieffer Lindsey, a civil engineer, and are laying out a new road from the Floyd County line to Cartersville. This will form a part of the Atlanta-Chatanooga highway, which is rapidly being pushed to completion. Floyd County has completed its portion of the pike from the county line on the south to the county line on the north, a distance of 21 miles. The road is 20 feet wide, built of chert and macadam, smoothly surfaced, and is kept in fine repair. The Bartow County authorities will soon complete their portion of the highway. The road authorities in Walker County are building from LaFayette south to the Chatanooga County line and already have the splendid government pike reaching from LaFayette on into Chattanooga. The Chattanooga County road authorities are somewhat behind the others in their work, but it is expected that they will shortly join in the project.

Removing Sidewalk Obstructions.

Sacramento, Cal.—Captain Pennish has instructed all patrolmen to make it their special duty to see that all obstructions not authorized by the new electrolier ordinance are removed from the sidewalk. The ordinance prescribes that only United States mail boxes and police and fire boxes shall be allowed and poles on the curb line.

Poles for all purposes other than for the support of these boxes must be removed. Also all awnings and electric signs which extend farther outward than a perpendicular line $3\frac{1}{2}$ feet from the inside edge of the curb must be made to conform with the ordinance.

Middletown Interested in Highway Improvement.

Middletown, Conn.—No contract has yet been let for the improvement of the Haddam turnpike road, although there is a strong desire on the part of the people of the town and on the part of those who use the road to have something done. The bids for the work were opened on July 30. Highway Commissioner MacDonald at that time said he thought the bids were rather high, but it was supposed the contract would be let and the work commenced. Instead the selectmen hear that he has sent R. G. Pike, of his engineering force, to make an estimate of the cost of work with a view of ascertaining if the figures of the bidders were not altogether too high. That the road is in poor condition is generally admitted, and the subject of unfavorable comment and that it is a much traveled road is proved by the count kept of the automobiles that passed over the road one Sunday, a count showing 170 in two hours. It is a trunk line between Hartford and Saybrook and the worst piece in the whole stretch. The fear is now felt that no improvement can be made on the road this year.

Pasadena's Street Bill \$206,502.50.

Pasadena, Cal.—Street improvement work in this city cost \$206,502.50 during the fiscal year just ended, according to a report made public by Mayor William Thum. This sum was expended almost entirely for maintenance of improved streets, few thoroughfares being paved during the past twelve months. Of the sum \$78,508 was spent for street intersections, \$5,771 for the care of sewers, \$14,363 for street sprinkling and the balance for street sweeping, oiling and repairs.

Road Bond Issue Nearly Spent.

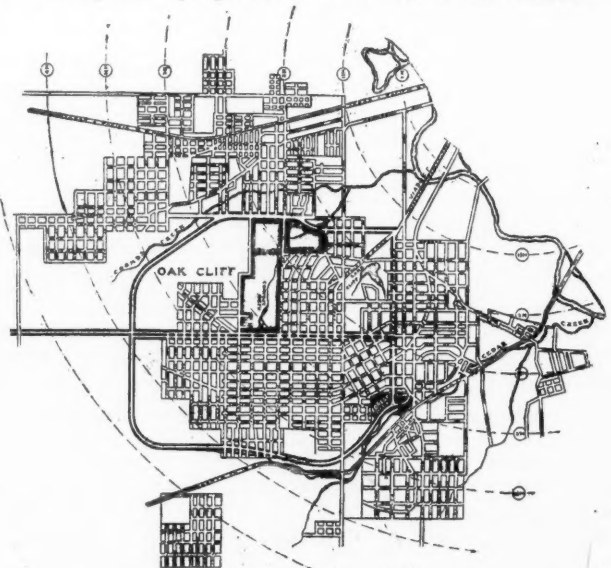
Jacksonville, Fla.—Frank H. Elmore, secretary of the bond trustees of the one million dollar good roads bonds, in a statement rendered to the Duval county board of commissioners, showed that out of the sale of \$750,000 worth of bonds of the million dollar issue, there remained available for road purposes on August 7, the sum of \$102,159.17, which amount was reduced to \$38,951.26 by authorized drafts of \$73,207.91 made that day by the county commissioners.

Thus it is seen that the third installment of \$250,000 of bonds for the third year of road work in Duval county is almost exhausted, the imposed condition when the bond issue was adopted being that \$250,000 per annum should be expended for road work in Duval county.

Want New Viaduct Approach.

Dallas, Tex.—A petition by numerous civic bodies for the raising above high water mark and surfacing of the viaduct approach to Zang's Boulevard in Oak Cliff has been placed before the county commissioners. This requires improvement of but 880 feet, the estimated expense, based upon reliable calculations, being less than \$2,000.

More than mere accessibility to the viaduct, however, depends upon the placing of this approach in proper condition for traffic. One of the primary considerations is that it will afford opportunity for a beginning on the West Dallas Boulevard, proposed by George E. Kesler, in the plans he has made for the symmetrical development of Dallas and Oak Cliff. This boulevard, as is indicated by the map, will tie into the Marsalis avenue boulevard to Forest Park and make a delightfully complete driveway around Oak Cliff and render the viaduct accessible to the citizens of West Dallas, which they are now denied except by a circuitous route. These citizens feel that they are entitled to this consideration in view of the fact that they are bearing their proportion of the cost of the viaduct.



SKETCH OF INNER SYSTEM OF BOULEVARDS.

Contracts on Highway.

Bristol, Tenn.—The convict road gang, which has been busy with work in the Damascus district of Washington County, Virginia, for several months, is just now finishing its work in that section of the country, and will then be brought to Bristol to begin work of a stone highway between Bristol and Abingdon, which is to be a section of the proposed Bristol-to-Washington highway. The money necessary to build this road through the county upon the convict basis has already been appropriated.

Many Miles of Paved Streets.

North Yakima, Wash.—Work on the new Summitview road, where one and one-half miles of asphalt macadam, 32 feet wide, with curbing, are to be laid through one of the heaviest fruit producing sections in the vicinity of this city, has been started. Work on the Fruitvale boulevard, which will give about five miles of continuous macadam, from the city limits to Nelson's bridge, in the Natches, has also been commenced.

Part of Road May Be Paved.

Syracuse, N. Y.—Requests have been forwarded to Superintendent C. Gordon Real of the State Department of Highways to have paving brick substituted as the surface for the Syracuse-Bridgeport State road for a distance of 4,000 feet from the city line in Court street. The road is now being built under State contract by William J. Burns Company, and the difference between the contract price and the appropriation is believed to be sufficient to pay for brick instead of macadam. Supervisor Edward Arnsts of the First Ward and a number of the property owners along the highway have been urging the substitution. The plan has been approved by County Highway Superintendent F. E. Bogardus, Division Engineer F. S. Strong of the State Department of Highways, Mayor Edward Schoeneck, Commissioner of Public Safety H. E. Hessler, Father Berard of the Church of the Assumption and others.

Brick Pavement Highly Praised By Experts.

Syracuse, N. Y.—The quality and construction of Syracuse brick pavements were highly commended by G. H. Brown of the United States Department of Commerce and Labor and H. H. McDonald of Cleveland, assistant secretary of the National Paving Brick Manufacturers' Association, who have made a thorough inspection.

Pavements in most of the larger cities are being examined, samples taken and information gathered, for the purpose of issuing a bulletin. The government will establish a standard for the guidance of cities in constructing brick pavements.

"Syracuse has some exceptionally fine brick pavements," said Mr. McDonald, "and those being laid now under the direction of City Engineer Henry C. Allen are better than the old ones. Mr. Allen has improved the specifications and method of construction, and it would not be strange if some of the recent pavements will be serviceable for forty to fifty years."

Samples of brick from the older pavements were taken which will be sent to the government laboratory at Pittsburgh and be subjected to the "rattler test," which consists of tumbling the brick in a steel barrel with iron. Analysis of the brick will also be made. One of the objects sought is to determine the best composition and method of manufacture and establish a national standard.

County Plans Check of Road Work.

Bloomfield, N. J.—Determined that the authorities of Bloomfield shall conform to the law governing the opening of county roads, the freeholders, through Assistant County Counsel Harold A. Miller, will apply for a restraining order to prevent the further tearing up of Bloomfield avenue for the purpose of laying water mains. This work on the street was stopped on demand of Freeholder Gilbert, chairman of the Roads Committee, and was resumed again in a few days. Supervisor of Roads George Eager commanded the workmen to again cease work, but after a brief delay the men returned, on orders of Councilman Murray, of the Bloomfield Water Committee. The

dispute arises over an interpretation of the terms of the charter of the Orange Water Company, which was assumed by the town. This company had the right to open roads and lay pipes in that "vicinity." According to Director Evans, of the freeholders, the charter gave the water company authority to open roads in "Orange and vicinity." He believes one of the points to be determined in the proposed law suit will be the question whether Bloomfield can be correctly described as the "vicinity" of Orange. Under the law of 1907 authority over all county roads is vested in the Board of Freeholders. This act provides that to open roads permission must be obtained from the freeholders. The Bloomfield Council has declined to ask such permission on the ground that the charter gives the town prior authority. The law prescribes a penalty of \$100 for violations.

Prisoners to Aid in Building Streets.

Denver, Col.—The prisoners in the city jail are to be employed in paving and surfacing the streets of Denver. Denver will be beautified and the feeding of the prisoners will not be an uncompensated expense to the taxpayers. The men will be put upon their honor, working in the city's gravel pits, after the method of Warden Tynan's convicts in the state penitentiary. It is estimated by the administration that the work may be done at a cost of \$1 per front foot, but the levy will probably amount to \$1.50 per front foot, this to be distributed over a period of four years. This price is less than half the cost under ordinary conditions.

The prisoners are not to be employed with the hired workmen, but would be sent daily to the city's sand-pits in the outskirts of Denver, being taken back and forth in two motor trucks to be used for transporting the gravel from the pits to the desired point.

Memphis-Bristol Highway.

McEwen, Tenn.—Another link in the Memphis to Bristol highway is the building of one mile of good road, commencing at the corporate limits of McEwen and extending along the proposed route to the old stage road. The road is being graded with a traction engine.

Commence Widening Peachtree Street.

Atlanta, Ga.—The last obstacle to the widening of Peachtree street, in order to complete its transformation from residence into business property, has been removed by the City Council. The city is to buy a narrow strip so that a new \$500,000 apartment house at Peachtree and Ponce de Leon avenues can be set back, and is to pay \$7,500 damages to the owner of a small store building opposite the new Capital City Club. These transactions mark the passing of one of the most famous residence thoroughfares in the country. The name of Peachtree street is said to be as well known in Europe as is the name of Champs Elysees in America. Since the founding of Atlanta, it has been the city's leading fashionable residence street. Now in the rapid march of progress it is destined to become the city's leading business thoroughfare.

Experiment with Asphalt Instead of Oil.

Springfield, Mass.—The use of liquid asphalt as a substitute for oil on macadamized streets is being tried by A. H. Woodward, acting superintendent of streets, as an experiment in the hope of finding a better dressing for the streets. It has been difficult to keep newly macadamized streets in good shape with oil and some of the new roadways in the city have begun to ravel and require repairs. The liquid asphalt is spread by the same carts used for oiling the streets and is allowed to stand for about two hours, at the end of which time it is covered with sand. The whole is gone over with a steam roller and the sun draws the asphalt through the sand, making a coating of about one-half an inch in thickness, which entirely covers the street. The cost of putting on the asphalt is about twice that of spreading the streets with oil. It is expected, however, that one application will keep the road in condition for a year. Trinidad liquid asphalt is the material being used.

SEWERAGE AND SANITATION

Sewer Construction and House Connections.

New Orleans, La.—Superintendent Earl has reported that during the month of July the city's forces constructed forty-two blocks, or about 2.52 miles, of sewers, making 412.55 miles of sewers up to Aug. 1, and that 519 house sewer connections were made during the month, while 712 new house water connections were made in July, serving 886 premises, making the net number of meters in service on Aug. 1 as 31,610. He also reported that the contractors had started the excavation on the Claiborne canal, on the Metairie relief and the Broad Street canal, and that on the excavation of the People's drainage canal the dredge had run almost continuously and had made good progress.

Berlin City Without Flies.

Berlin, Germany.—The notably clean streets of the capital city of the German empire not only assist in keeping the death rate low and pleasing to the eye, but add as well to the comfort of every-day life.

At this season of the year, while young America is being taught to "swat the fly," there is no occasion to teach Berliners any such activity. Although window screens are almost unknown in Berlin, so few flies can be found in any place that they appear lonely.

The city's admirable street cleaning methods do not leave enough refuse to permit the flies to breed.

Unusual Sewer Construction.

Philadelphia, Pa.—Dobson's Run sewer, with a diameter of 8 feet 6 inches and a varying in depth below the surface of the ground, is gradually approaching completion, and will be finished within two months. The most difficult part of the work, that of tunneling through hard rock under Dobson's Run dam and forebay, the Norristown branch, and three times under the Port Richmond Branch of the Reading Railway, has been completed. This work, requiring a great deal of blasting, and forcing the men employed to work like coal miners by the aid of artificial light, was performed without a single accident, a record of which John D. Schrader, the superintendent, is justly proud.

The constructing of the sewer is in progress. The lower part of the circle, or base, is of granite block. The rest of the sewer will be of shale brick 13 inches thick laid in cement. Dobson's Run sewer will connect with the Bristol street and Wissahickon low-level sewers. The first at Bristol street and with the latter at Twenty-ninth street and Hunting Park avenue, and will drain part of the city from Wissahickon avenue westward to Thirty-fourth and Ontario streets, and from Allagheny avenue north to Tioga street. The completion of the system will form a drainage that will extend from the Schuylkill to the Delaware and from Germantown to old North Penn Village. Joseph Perna, who is building the Dobson's Run sewer, declared it to be the most difficult operation he has ever undertaken. Carrying the excavations under Dobson's Run, dam and forebay, without in the least disturbing the water, and the burrowing under the two branches of the Reading Railway without interfering with the traffic on the two lines, were difficult feats. While confined to a small arc, Dobson's Run sewer is something more than one and one-half miles in length. A force of 60 men is employed on the work, the greater part of which has been done by improved machinery.

City Takes Action Relative to Infant Paralysis.

Los Angeles, Cal.—Infantile paralysis in Los Angeles has so alarmed the city health officers that they have distributed to the general public 45,000 circulars giving the history and symptoms of the disease and have prepared a large number of other pamphlets for distribution among physicians, so that all may recognize the malady and take immediate steps for saving children's lives. Dr. L. M. Powers, city health commissioner, has asked the council for \$5,000, with which to prepare a quarantine station for children attacked by the scourge.

Flood Washes Away Storm Sewer.

Denver, Colo.—The devastating effect of a flood in Cherry Creek at First avenue and Downing street is shown in the illustration. The concrete walls were undermined and torn away, several sections weighing at least 50 tons each were carried below Downing street bridge. Several hundred feet of the fifty-six inch sewer were washed away.



SEWER WASHED OUT BY STORM.

WATER SUPPLY

Make Payment in Water.

Los Angeles, Cal.—Glendora water companies want to raise \$500,000 to build a conduit over the mountains to serve the Glendora-San Dimas section on condition that the city will pay the money back in water. This was the proposal made to the public service commission by President Warren of the Glendora Water company. The customers of the aqueduct water are willing to build the line if the city will guarantee water in twelve months and pay 4½ per cent. on the outlay—but everything is to be paid in water. The commission would give no answer because Engineer Mulholland has not yet completed his estimates on service of this region by several methods.

Marshall's Water is Pure.

Marshall, Tex.—Marshall city water is wholesome and pure. This is the decision reached by the chemists of the State Pure Food and Drug Department, whose representative was in Marshall a week ago, and who took four samples of the water, at the same time making an inspection of the source of supply and the distribution plant.

Wells Yield 100 Gallons Per Minute.

Mattapoisett, Mass.—The Hanscom Construction Company, of Boston, which has been driving wells for the committee on water supply of the town of Mattapoisett has completed its work, the \$500 allowed the committee having been exhausted. The contractors have completed three wells on the banks of the Herring Weir River, drilling to a depth of 22 feet, and obtaining a flow of 100 gallons of water a minute. The supply of water has been passed on by the State Board of Health and reported as of excellent quality. The water committee will be prepared to report the progress made either at a special town meeting or at the next annual meeting and await further instruction from the citizens.

Municipal Plant Makes Third Reduction in Rates.

Porterville, Cal.—City ownership of the water system in Porterville has been so successful that a third reduction in the rates to be ordered within the past four years will result from the annual report which was filed by Superintendent J. E. Curd lately. It is stated that the plant is more than paying interest and principal on the bonds, which were issued for the purchase and extension of the plant, and that in consequence the rates can be still fur-

ther reduced to the householders. Since the city acquired the plant about \$100,000 has been spent for betterments and extensions.

Testing Intake for Leakage.

Oswego, N. Y. —After spending the past two weeks in an endeavor to locate the leaks in the intake pipe of the new lake water system, Engineer J. W. Reed, representing Consulting Engineer James H. Fuertes, will leave for New York. Mr. Reed made his final test of the pipe. A cap which he designed was placed over the intake crib and it was found that with the use of the cap the leakage was greatly reduced. Mr. Reed said the cap used on previous tests was not properly built and that a large amount of water entered the pipe in the intake crib. The test made last week, Mr. Reed stated, showed that the leakage amounted to 3,750,000 gallons per day, while the leakage at the later test was on the average of only 350,000 gallons for the same length of time. "There are 725 joints in the pipe," said Mr. Reed, "and it is safe to assume that many of these are not properly caulked, or if they were properly calked when the piping was laid, the calking has worked out. The general opinion at first was that the greatest leakage was at the sleeve, 700 feet from the shore, but after making a personal investigation I found that while there was a slight leakage this was by no means the critical point. The leakage is far above what it should be under normal conditions."

New Pump Arrives for Installation.

Saginaw, Mich.—The new pump for the east side pumping station has arrived. It is hoped by the water board and its officials to have the new pump fully assembled and in operation in about thirty days, the work being already under way, directed by Superintendent Johnson. This pump, which has been long expected, and which was ordered many months ago, in pursuance of the water board's policy of bringing the Saginaw service up to the highest point of efficiency to be obtained under existing conditions, is of the type known as Myers gear and its cost is \$7,500. It will pump from 6,000,000 to 8,000,000 gallons each 24 hours and will be a valuable auxiliary to the equipment at present in use at the station, consisting of the big Gaskill and the reserve Holly, the latter of which has in the past had to take all the burden when the big pump was out of commission, and being inadequate for all demands, though performing much better than was expected of it.

Besides the \$7,500 actual cost of the new machine, there is involved an expenditure for solid cement foundation and chambers, also for building to house it and other details, the total, including the pump, being about \$13,000.

Expert Makes Report on Water Works.

San Antonio, Tex.—Beyond the informal discussion of the report of Alexander Potter of New York, the consulting engineer, who has just completed the record of his findings in the investigation of the San Antonio water-works system, no step has been taken towards the formal receipt of the document by the City Council or any of the city officials. Several pages of the report are devoted to a discussion of the water used for street and lawn sprinkling. The report shows that 102,930,000 gallons of water are used for day sprinkling and 6,424,000 gallons are used for night sprinkling on the streets. Mr. Potter has prepared a table showing the number of days each month that the streets have been sprinkled and the number of carts and the number of trips made by each cart.

In this table he shows that the average amount of water pumped upon the days when sprinkling occurred was 383,000 gallons per day. The requirements for night sprinkling he found to be as follows: Eight hydrants used 7,318 gallons and twenty carts used 9,000 gallons. In addition to this six hydrants were used once a week for special flushing work and consumed 7,318 gallons. Street sprinkling is no heavier tax on the water system in summer than in winter, the strain upon the water works plant being measured by the maximum daily pumpage and not by the maximum monthly or weekly pumpage. The average amount of water used for street sprinkling Mr. Potter sets down as 400,000 gallons a day. He points

out there has been an enormous waste of water on lawn sprinkling because there has been no proper regulations as to the use of water for this purpose. In his report he shows that 7,000,000 gallons of water are used each day for lawn sprinkling during the summer months and of this amount nearly one-half can be cut out without any detriment to the consumer. He recommends that coincident with the passage of an ordinance reducing the water rates to consumers stringent regulations should at the same time be imposed upon the consumers in reference to the waste of water and the hours of the day and night when the sprinkling of lawns will be determined.

Claim City Water Contains Bacteria.

Washington, N. C.—It is claimed that water furnished by the Washington Light and Water Company to the residences of the city contains bacteria and is unfit for drinking purposes. Upon investigation it was learned that the State laboratory notified the water company on July 27 that the water was dangerously polluted. Mayor Harding stated that this information was given on July 27, but notwithstanding these conditions, which are dangerous to the public health, well known to the authorities either of the State or to the water company for a period of four days, no notice was given to the public until some time afterwards.

Digging Big Well for New Water Supply.

Marblehead, Mass.—The new well which is to form an extension of the Marblehead water supply being dug in Thompson's Meadow is about one-third completed, as shown in the illustration. On the surface was a rich black



Courtesy Lynn Item.

MARBLEHEAD'S NEW WELL UNDER CONSTRUCTION.

sail, under it a bed of hard clay. While an ample supply of water for the next few years is expected it may be necessary to sink other wells later on. Well No. 1 of the present supply will be abandoned, as the water contains considerable salt, or used only as a reservoir. The bottom of this well is about five feet below sea level.

Historic Pump to Disappear.

Wilmington, Del.—The "Village Pump," which has been associated with the history of Wilmington since Revolutionary days, soon will disappear. It is said that both Washington and Lafayette quenched their thirst at the well prior to the battle of the Brandywine, and it was not only the favorite place for the villagers of early days to meet and gossip, but it was a favorite trysting place for the young men and maidens of the long ago.

The pump was in active service until a few months ago, when it was allowed to get out of repair. Recently the water in the well was analyzed by representatives of the Wilmington Board of Health and of the Water Department with the result that it was found to be unfit for use and the pump was ordered to be abolished.

Town May Own Its Water.

Moorestown, N. J.—Public ownership of the water works supplying the town as the best solution to the problem of insuring a pure supply was advocated by many

of Moorestown's prominent citizens following a public meeting, when the water company virtually agreed to accede to demands that artesian water be substituted for creek water.

Work Begins on Water System.

New Pine Creek, Ore.—Work has commenced on the water system for New Pine Creek which is to cost in the neighborhood of \$10,000. It is expected that water will be accessible in a part of the system within the next fifteen days.

The system will be supplied by gravity pressure from a reservoir located in Pine Creek Canyon, about 1½ miles from town. It will be possible to get pressure enough to throw a stream over the highest building in town.

STREET LIGHTING AND POWER

Decatur Light Plant Rebuilt.

Decatur, Tex.—The new electric light and power plant, destroyed by fire about one year ago, will be again in operation Sept. 1, according to statement made by the City Councilmen. The plant has been rebuilt throughout and new machinery installed in duplicate. Expert machinery men who have been employed to look after the installation of the works say this is one of the best equipped plants in the State. An effort is being made by the Commercial Club to have the streets and public squares lighted when the new plant is put in operation.

Testing New Street Lamps.

Willimantic, Conn.—The Willimantic Gas and Electric Light Company turned the current on for the first time one evening last week connecting with two new types of street lights to give a demonstration to the city fathers as to the relative lighting power and value of the light. The light placed in front of the Hotel Hooker was a magnetite type of lamp and the one at the corner of Main and Church streets was a flaming arc light. The cost of operation of these two lamps is practically the same. The mayor and the city lighting committee inspected the two lights and will obtain estimates from the company on each lamp before deciding which one they will have installed and before signing a contract on behalf of the city for another term of years.

Experiment With New Lighting Scheme.

Hudson, N. Y.—A try-out of the new incandescent lighting system which this city is to have at the expiration of the present lighting contract, was made on East Court street, from the Courthouse to North Fifth street, to determine the number of lights that will be required in a block to properly light the streets, and this block was selected because of the density of the trees there and with the nine lights put up for the demonstration the street was well lighted and with much better effect than under the present arc system of lighting.

The exhibition lights are equipped with the 60 candle power Tungsten lamp but not with the Acme globe as required by the specifications. Another globe is being used for this tryout and the effect, it is claimed, will be much better yet when the globe selected is used at the time of the installation of the new system.

Install Street Lights.

Lynnfield, Mass.—The work of installing the street lights is progressing, although not as rapidly as expected, and it looks favorable for lights about the middle of the month. Time required in securing privileges for stringing wires is attributed as a delay. It means a large expenditure to the Peabody Light Company, who supply South Lynnfield with electricity to install the system for only about seven months, as that is only the period for which the town voted the lights. To have them next year the town would have to vote accordingly at the annual meeting next March.

In Lynnfield Centre the situation is a little different. The Reading Light Company, a municipal plant that supplies

electricity to Lynnfield Centre, has not the available means to instal the system without resorting to a special town meeting, and as they cannot secure a contract for a longer period than about seven months, do not feel like calling the meeting, and therefore Lynnfield Centre will probably be lighted by the system formerly privately maintained.

City Gas Well Puffs No More.

Shreveport, La.—The city gas well, which was drilled in two months ago, making 12,500,000 cubic feet of gas daily, was killed by a firm of contractors employed by the city and citizens' committee to handle it. An accident to the well some time after it was drilled in made the killing necessary in order to save a blowout. It is probable the city will drill another well on the Fair Grounds near the hole which was filled in with mud.

City Tackles Monopoly.

Battle Creek, Mich.—Various cities about the State will watch with interest Battle Creek's effort to destroy the gas monopoly, especially in view of the fact that there is just sufficient Socialistic strength in Battle Creek to make the local gas company worry over a possible municipally owned gas plant.

City Attorney D. C. Salisbury, in drafting a new gas ordinance, inserted a chapter that will compel the Battle Creek Gas Company to pay a license representing 2 per cent. of its gross receipts, the city to have access to the company's books to obtain this information. The city will not concede that the company has a franchise, even when passing the new ordinance. The company claims to be operating on a franchise secured many years ago by E. C. Nichols, who is no longer interested in gas matters.

Elizabeth Has New Lights.

Elizabeth, Pa.—West Penn Electric Co. has a force of men making extensive changes in the street lighting system, in accordance with an agreement reached some time ago between the borough and the company. In a number of places arc lights are being removed and large tungstens put in, three tungstens being put in for each arc removed. This admits of the putting of lights in many new places and much better distribution of the light over the town than heretofore. More than the above proportion is being maintained by the taking of light to some neighborhoods where they did not have it before, and the whole result will be a slight increase in the cost, but the committee which recommended it argued that this would be justified by the much better results attained, and council, in approving it, evidently held the same view.

Light Plant Franchise Granted.

Cumby, Tex.—The city commissioners of Cumby have granted a franchise to erect and conduct an electric lighting plant in Cumby. Work on the plant begins within ten days, and it is expected to be in operation within three months.

City to Lay and Rent Wires Tubes.

Poughkeepsie, N. Y.—Beginning with next year, the city of Poughkeepsie will have conduits designed for the wire systems of telephones and telegraph companies in every street accepted by the city and in every street where new pavement is placed. These conduits will be constructed at the expense of the city, and will be rented out to the telephone and telegraph companies.

New Light Standards for Taunton Green.

Taunton, Mass.—The municipal light department has started work on the setting of the iron poles which are part of Manager Golden's plans for the better illumination of Taunton Green. For years the lack of illumination of the Green and the adjacent square has been the cause of more or less criticism. Dr. Golden will set iron posts in cement, just inside the rail and will attach high power lights that will make the common one of the brightest parts of the city. The better illumination of Main street is another prospective improvement.

Will Be More Cautious in Granting Franchises.

Pittsburgh, Pa.—Those persons who apply for electric light and power franchises in this city hereafter will have a hard row to hoe, according to the statements of seven of the nine city councilmen. This is because of the fiasco recently played on the city fathers by the Pennsylvania Light, Heat and Power Company, of the North Side. This company, a competitor of the Allegheny County Light Company, had a franchise for the North Side only. After a long fight the councilmen granted it permission to extend its lines to downtown Pittsburgh and the East End. Shortly after this franchise was given, the Pennsylvania company sold the controlling interest in its work to its competitor, the additional franchise given by the city allowing the stockholders to get a greatly increased price for the stock. This trick played on the councilmen made them angry through and through. From some of the statements of the men others who seek franchises will have trouble getting by unless the grant is covered with all kinds of strings. That the lawmakers are angry was brought out when Attorney Henry G. Wasson, of the Keystone Light Company, appeared before the committee on public service and surveys. Mr. Wasson's clients are seeking to extend their activities. It took but a short time for the councilmen to give their views. Mr. Wasson stated that he was willing that the city should demand a bond from this company, to be forfeited if it sold out.

Luminous Arcs Are Installed.

Utica, N. Y.—A contract with the General Electric Company of Schenectady and the Ornamental Lighting Pole Company of New York for the installation of 60 luminous arc lamps on Genesee street from Bagg's square to Washington street, has been signed. The lamps were placed so that they could be used August 21, which was Sherman Notification Day. By the terms of the contract the business men along Genesee street will pay \$1.99 a front foot for the installation of the lamps and for the necessary current to operate them from August 21 until January 1, 1913. After that time the city will pay for the current necessary for their operation. The General Electric Company offered to send a lighting engineer, Mr. Axford, to Utica to help the committee in charge of the Sherman day celebration in obtaining splendid electrical effects. The company also offered to loan the city a number of appliances for the display. In speaking of the new system of illumination Mayor Baker said: "Utica is the first city in the state to employ this style of a lighting system and I think it will be the recipient of many congratulations from strangers who come to our city. It seems to me that good street lighting will pay the city and its business houses in dollars and cents and add greatly to the attractiveness and the beauty of the town. I believe that the new system will add to the city's real estate values and will help to revive business districts which might otherwise come to a standstill because of the diversion of traffic and travel in other sections.

"The city, under its charter, could not do anything towards the installation of the lights or the maintenance charges this year because of the adoption by the Common Council of the budget for 1912, and the law provides that city officials can go so far in expending money under a tax levy and no further. After the first of January the maintenance of the lamps will be taken over and the lights paid for just the same as the present lights in Genesee street are paid for.

Municipal Electricity for Ornamental Lighting.

Topeka, Kan.—According to the preliminary budget just completed by H. P. Miller, city commissioner, it will cost the city of Topeka \$9,500 to add new machinery to the electric light plant and furnish current to the great white way on East Fourth street and on Ninth street. Commissioner Miller feels, however, that the cost will mean little to the city finances. "We will save the entire amount by furnishing 'juice' to the Kansas avenue great white way," Mr. Miller explained. "We save \$3,000 a year through this plan—the city furnishing the current instead of the Edison company. We will install new machinery and improve the plant until it can take care of all of the proposed white way extension."

FIRE AND POLICE**Pompier and Training Tower Being Rebuilt.**

Denver, Col.—The city practice tower, formerly located on Walnut street, near the Fourteenth street viaduct, having been torn down to make place for the new city shops, is being rebuilt directly opposite the City Hall, between Larimer and Walnut streets, on the west side of Cherry Creek. The work is being hastened so as to complete the tower in time for the International Association of Fire Engineers' convention, when the department expects to do its best in both pompiers and engine drills.

Bureau of Police Install Dictaphones.

Pittsburgh, Pa.—Two dictaphones of the latest design have been received by the Pittsburgh Bureau of Police and have been secretly installed by Public Safety Director John M. Morin. While the machines were bought for the purpose of taking evidence against criminals subjected to the "third degree," an amusing situation developed when it was declared that the telltale instruments were secreted in the walls of the rooms and were taking conversations of the city detectives. As a result, when detectives have had occasion for a private chat between themselves in the Police Headquarters they have carried on their talk in whispers.

Plans for Sixty New Fire Companies.

New York, N. Y.—Fire Commissioner Johnson has planned a big extension of the New York Fire Department and expects that it will be completed inside a year. He intends to add sixty new companies to the organization, and to man these companies more than 700 more firemen will be required. There are forty-two new engine houses now under construction in the new and the old parts of the city.

New Police Call System in Freeport.

Freeport, L. I.—Through the instrumentality of Village President Capt. James Hanse and the village board, the new police call system has been installed and practically ready for use. The police of the department have the keys to the boxes—twelve of them. About twenty-six red lights will be installed throughout the village, nearly every street having a red light in it. In the event of a hurry call by 'phone or otherwise received at Police Headquarters, the red light will be turned on where the nearest policeman to the scene can see it. He will at once get in touch by 'phone, which will be installed in the boxes, and learn from the man in headquarters just where he is wanted.

Police Will Regulate Advertisements.

Zurich, Switzerland.—The chief of police at Zurich has just formed a special branch to supervise and control advertisements in the newspapers and on the walls of the town. The newspaper managers have received a notice stating that in future no objectionable advertisement matter, under which head are included announcements relating to hair restorers, complexion beautifiers, fortune telling, etc., will be permitted to be published. This step, which will probably lead to an interesting law case, is the result of the publication in the local papers of many objectionable foreign advertisements.

Fee Ordinance is Satisfactory.

Knoxville, Tenn.—The recent "fee ordinance" adopted in Park City provides an income for special policemen, of which every ward has one or more. The income from the municipality is equal to the amount of costs collected from the county and state in individual cases. The new system is proving much more satisfactory, it is declared, and is providing better police protection for the town. The fee item in Park City within the past year has proven highly satisfactory, more than enough having been collected in court fees, plumbing and building inspection fees to pay the salaries of all the paid officials and employees of Park City. Formerly plumbing and building inspectors collected such fees for their own salaries, as provided by the municipality. Under the present system all fees are turned into the municipal treasury, while the offices of plumbing and building inspector have been combined and assigned to the marshal.

AUTO APPARATUS NOTES

Compressed Air Chemical Attracts Attention—Training Men to Handle Autos—Cost Records of Operating Chemical Engines and Patrol Wagons.

New Britain, Conn.—The Pope Manufacturing Company of Hartford had one of their new model cars with fire apparatus motor attached, chain driven, in this city recently. The car made the rounds of the city and tried several of the difficult hills in town. They were able to climb Sexton street hill on high speed, which speaks very favorably for the motor. One of the board of public safety commissioners made the rounds in the car and was very favorably impressed by its ability.

Charleston, S. C.—The automobile fire-engine school, which is being conducted by H. J. Schaffer, the expert demonstrator of the Seagrave company, at the John street fire station is progressing daily, and the new combination, chemical motor tractor is making daily trips about the streets with one or another of the local department's men who are being instructed in the handling and care of the machine at the wheel.

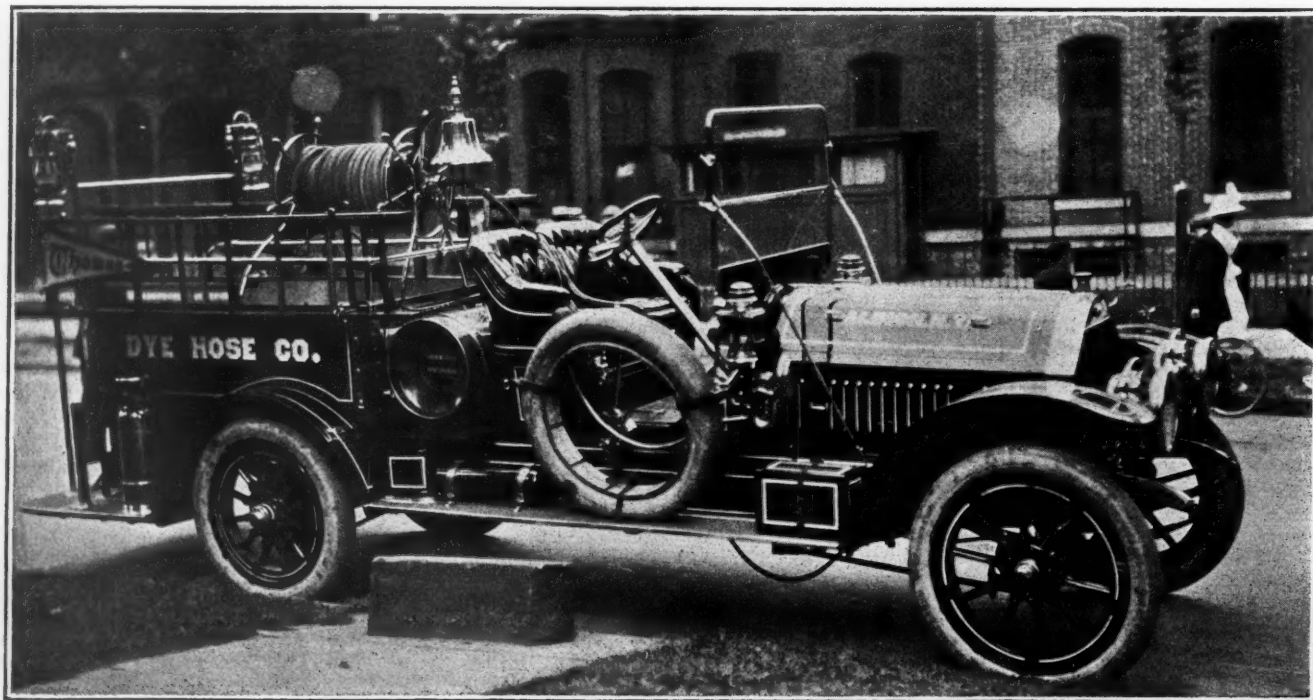
Four pupils are taking lessons from the manufacturers' expert and reports from headquarters say that they are all making good progress in managing the six-cylinder 60-horse power motor.

Rochester, N. Y.—The new \$6,000 motor fire truck, made by the Victor Motor Truck Company, for the Dye Hose Company, of Albion, attracted considerable attention at the convention of the Western New York Volunteer Firemen's Association. This is the first combination hose, chemical and ladder truck owned by a volunteer organization in the state. The car is one of the six-cylinder, 70-horsepower chassis, capable of making 75 miles an hour with full equipment of 10 men, 1,000 feet hose, one 20-foot extension ladder, a 10-foot combination scaling and roof ladder, a 40-gallon carbonated gas tank and two three-gallon hand extinguishers. Its equipment is complete with a powerful electric searchlight, to aid the firemen while working on a building in the night, windshield, locomotive bell, axes, door opener, coats, helmets and all necessities. The chemical equipment is a saturated solution of carbonic acid, instead of the old style acid-soda type. While the solution is about five times as effective, it is harmless, may be drank, and poured on the finest curtain, carpet or clothing without damaging it. The apparatus is painted a bright red and striped in white and the equipage is nickel-plated.

Winston Salem, N. C.—Again Winston has shown that she is determined to keep in the forefront of North Carolina cities. The aldermen have already purchased the finest and most modern fire-fighting engine in North Carolina. It is said that the new machine, manufactured by the La France Fire Engine Company of Elmira, New York, is the most modern fire fighting apparatus known to the twentieth century. It has a speed capacity of 60 miles an hour, weighs 7,200 pounds and will throw 700 gallons of water a minute. It is equipped with a 40-gallon chemical tank and 200 feet of chemical hose and has a capacity for 1,200 feet of 2 1-2 inch water hose. The engine will carry 20 feet of extension ladder and 12 feet of roof ladders with folding hooks. It is also equipped with two 8-inch reflector lamps and 9-inch search lights. Its purchase price is \$9,000.

Gloucester, Mass.—A communication from the board of engineers asking for an appropriation for the purchase of an additional fire alarm box to be placed in Ward 3 was referred to the committee on the fire department. Chief Engineer Crowe sent a communication to the board calling attention to the work performed by the auto chemical during the year it has been in commission, having made 108 runs, travelled 144 miles and done 72 hours duty. The longest distance traveled was two miles, to Annisquam Island. The cost of maintenance for the first six months was \$37.50 and for the year \$62.70. These figures he says, are convincing as to the wisdom of purchasing the machine, which has proved an available and valuable piece of apparatus, and the desirability of adding another apparatus of this character should be carefully considered.

Macon, Ga.—It has cost the city of Macon less than fifteen cents a mile to operate the police patrol and city ambulance during the past month. In his report to city council Chief Chapman stated that the machine had been operating for two years and that during the entire time not a single accident to the machine had been reported. The report showed that the machine during the past week had traveled 1,009 miles, making 496 calls, 42 of which were emergency calls, where people hurt in accidents had been taken to the city hospital. The police calls during the week amounted to 454. According to an estimate made from the report of the recorder's court, it is stated that approximately \$150 was collected from prisoners during the week for rides in the patrol wagon. The entire cost of operating the machine during the week was \$143.20, of which \$91 was spent for repairs and the purchase of new tires. It is estimated that the patrol has been operated during the past week at a small profit to the city.



CHEMICAL ENGINE OPERATED BY COMPRESSED AIR.

Pittsburgh, Pa.—The Department of Public Safety officials have placed a second order for five auto patrol wagons with the White Automobile Co. Although all of the first five machines ordered have not yet been put into service, those which are working have proven so satisfactory that the second order was decided upon.

Lexington, Ky.—A test of the automobile fire apparatus of the city was given recently for the benefit of Mayor M. E. Lyons and a party of aldermen from Dubuque, Iowa, who are on a trip of inspection of fire apparatus before purchasing the new equipment for their city. About 3 o'clock one afternoon the big truck and the hose wagon were taken to the corner of Main and Georgetown streets, and the first test made was the throwing of two streams from the fire cistern at that place, the water being lifted from a depth of twenty feet. The engine was then taken to the corner of Main and Merino streets, where it was tested from the fire hydrant there, a single stream being first thrown and then two streams were driven through a single nozzle. The wind which was blowing made it hard to throw a stream, as it was broken up rapidly, but otherwise the tests were very satisfactory, being made both with and against the wind. After the pressure test the Dubuque officials were taken a ride around the town in the truck. Mayor Lyons said that Dubuque, which is somewhat larger than Lexington, intends to get rid of their horse drawn apparatus, as it is too expensive, \$1,800 being expended in one year for horses alone, not counting the cost of feed and care of the animals, and then the department is not as efficient or as speedy as if equipped with autos. He said that it is their intention to purchase one automobile truck this year and two more next year. The party visiting Lexington comprised Mayor W. E. Lyons, Fire Chief Joseph Reinfried and Aldermen W. P. Anderson, John Heim, James Saul, J. J. McLaughlin, W. Singrin, J. H. Wallis and E. E. Frith.

Lebanon, Pa.—Former Chief of the Lebanon Fire Department Michael A. Glennon, who is chief engineer of the Rescue Fire Company, has started a novelty for firemen in the shape of a school of instruction for the fire fighters. The "school" is in session one night a week, and practical, quick and effective means of fighting fires are taught. The efforts of Chief Glennon are being greatly appreciated by the men and much interest is being taken in the lessons. How to handle the big auto truck and to use the different kinds of apparatus is taught every man on the crew under instruction. The engine will carry fifteen to twenty men but on a run to a fire a full crew consists of only eight men. Chief Engineer Glennon assigns every man a particular place and a particular duty and the men are getting the work down fine. The other night the engine was pumping water through a hose exactly twenty-eight seconds after the engine stopped at the fire plug. On another run the trip from the house at Fourth and Lehman streets to Third, to Weidman and back to Fourth was made in exactly one minute and 30 seconds from the time the alarm rang. Scientific fire fighting means the elimination of confusion at fires and that is what Mr. Glennon is working for.

Meadville, Pa.—With the pipe line laid, the small auxiliary pumping station about completed and the materials all on the ground for the elevated tank, the plant for the protection of the College Hill section of the City against fire, and also for domestic purposes, is rapidly nearing completion. It will be wholly completed and ready for business by the time the new auto fire truck arrives, probably the latter part of August. Aside from the auto truck, which will cost about \$9,000, this new fire fighting equipment will cost about \$4,000, and there seems to be a general feeling that the money will be well spent. Up to the present time the section of the city for which it will be especially available has been virtually without fire protection, and while the water service will be especially for the College Hill section, the auto truck will be for use all over the city and will be of as great value on Chester Hill as on College Hill. The auto truck will be a combination pump and chemical machine carrying 1,200 feet of fire hose and with engine power to carry it up the steepest hill in the city at 50 miles an hour.

GOVERNMENT AND FINANCE

Show Mayor Victim of Saloon Men's Plot.

Rock Island, Ill.—Petitioners for the recall of Mayor H. M. Schriener and Commissioner Archie M. Hart confessed in the circuit court to the insufficiency of the documents, thus ending the first test of that feature of the commission law in Illinois. Attorneys for the defendants during the four days of the hearing on the petitions, showed that barely one-third of the signatures were genuine. It was further proven that the recall was promoted by owners of disorderly saloons, which had been closed by the mayor. During the hearing foundation was laid for the prosecution of several of the recall promoters on charges of forgery and perjury.

Plot City Properties.

Pittsburgh, Pa.—The council having authorized a topographical survey of the city to be made by the City Planning Commission, the work of plotting on large scale maps all the properties owned by the city will be started shortly. The properties, whether occupied or unoccupied, will be fully shown on this map and carefully designated, that the various uses to which they are assigned can be readily distinguished. A color scheme has been adopted with a different shade for each kind of occupancy. Parks will be designated by green, recreation centres by red, engine houses by yellow.

Two Million For Half Year's Work.

Portland, Ore.—A summary of the city work now under way, issued by T. M. Hurlburt, City Engineer, shows that during the last six months 168 contracts for street improvements, amounting to \$1,487,619, and 43 sewer contracts, amounting to \$783,061, have been let. In addition to these figures, there now is under way 23.4 miles of new paving, for which the contracts were let the last half of last year. The contracts for this amount to \$1,193,000. Also there are 19.1 miles of similar street improvements under way, costing \$438,000. Prices contracted for street paving this year have averaged from 15 to 30 cents a square yard cheaper than in previous years, according to the reports of the City Engineer. There also has been a reduction in the price paid for sewer work, the contracts this year ranging from 20 to 35 per cent. lower.

STREET CLEANING AND REFUSE DISPOSAL

Oil For Federal Roads.

Chattanooga, Tenn.—Members of the Chickamauga park commission have received a consignment of 10,000 gallons of oil. This will be applied on the work of oiling the roads and driveways in the park. All of the roads will be treated in this way. All roads will be in first class shape in about two months. The oil does away with the great clouds of dust and benefits the construction materially.

New Incinerator Ready in November.

Pasadena, Cal.—Shower baths will be provided for the men who handle the city's garbage in the municipal incinerator now being built on South Raymond avenue. The comfort of the men will be looked after in other ways. There will be lockers for their clothes and a lunch room in which they can enjoy their meals. The incinerator is expected to be built by about the middle of October, but the contractor has thirty days in which to "cure" (otherwise, dry) his furnaces by slow heat. It will therefore be about November 15 before the city's garbage goes to the incinerator. Then there will be sixty days of service test before the city takes over the plant. By the middle of January, if everything is satisfactory, the city will be in possession of the plant. During the service trial the plant will be in operation under normal conditions and the garbage will be taken there for disposal just as it comes from the houses.

The building will be entirely of concrete. There will be a basement, a first floor, a mezzanine floor and a second floor.

Gainesville Cleaning Up for Prize.

Gainesville, Tex.—In order to help Gainesville win the Holland prize of \$500, large gangs of workmen are busy cleaning the streets, cutting high grass and weeds and otherwise beautifying the city ready for the inspection of the judges. The movement was set on foot by the ladies' clubs and has received much aid from the Young Men's Christian Association and the City Council.

Weed Burning Machine Given Trial.

Los Angeles, Cal.—The use of a burning machine for cleaning weeds off city lots during the first annual clean-up of Los Angeles, which will begin on Sept. 1, is being seriously considered by the city council and board of public works. A demonstration of the burner which is now being used extensively by the railroads in clearing their rights-of-way from weeds, has been made by representatives of the Allen weed-burning machine, in the presence of a group of city officials. The results were said to be highly satisfactory. The board of public works estimates that the clean-up with old-time methods will cost \$18,000, while the weed burner is said to reduce this cost considerably. The cost of clearing each lot of weeds will be added to the taxes on the property.

RAPID TRANSIT**Big Order for New Cars.**

Philadelphia, Pa.—J. S. Doyle of New York, the inventor of the Doyle-Hedley stepless car, which was recently introduced on the street railways of New York, placed a large order with the J. G. Brill Company for the construction of the first double decked stepless cars for the New York lines. The cars are similar to those in use in London and Berlin. Following the adoption of the type by the Metropolitan Electric Company of New York, the Chicago Rapid Transit Company has decided to introduce the car on the lines of that city. The cars will all be built by the Brill Company and the orders will keep the plant in West Philadelphia working over time for many months. Mr. Doyle took a hurried look over the street-car situation in Philadelphia and predicted the adoption of the new type of car by the Philadelphia lines. "In my opinion the Philadelphia lines will have to follow the example of New York and Chicago," he said, "and replace the present old-style cars with the double-deckers and stepless types. The new near-side cars now in use in this city are a great improvement over the old style, but I do not think they will fill the bill for many years."

To Operate Funeral Car.

Philadelphia, Pa.—The latest addition to the complement of the new cars which are being added to the equipment of the Rapid Transit Company is a trolley funeral car. The car, which will be known as the "Hillside," has been built along the general lines of the near-side type of car, except it has an exit at each end. It is painted in deep green, with the few lines and other slight decorations in gold. On the rear in gold lettering is "Funeral Car," while the name has been painted on each of the sides. The car is divided into two compartments, the larger one for the mourners, the smaller for the casket and for the pallbearers. Seats are provided in the main compartment for 40 persons. The casket is carried within a cabinet or vault occupying a portion of the pallbearers' compartment, the top of this cabinet forming a suitable place for displaying the floral contributions. A small rubber-tired folding truck is provided for conveying the casket from the residence or church to the car, and at the cemetery from the car to the grave. The interior of the car is appropriately finished and decorated, and is equipped with automatic ventilating and electric heating systems. To insure thorough sanitary conditions the car is cleaned and fumigated after every trip. A feature of the car is the fact that at no time can the casket be on view while in transit. A receptacle has been built on one side, the opening being on the exterior. Inside is a large mahogany case, upon which is a brass plate, surrounded by a rail, for the reception of flowers.

MISCELLANEOUS**Council Passes Anti-Red Flag Ordinance.**

Seattle, Wash.—The city council by a vote of six to three enacted over Mayor Cottrell's veto the so-called anti-red flag ordinance which provides that when any flag is carried in a procession the American flag shall be borne with equal prominence. The measure was drawn by Mayor Cottrell but was amended by the council so that it would oblige lodges at funerals and visiting militiamen to carry the American flag, and the mayor said the amendments would make the ordinance a dead letter.

Vehicle Hitching Law.

Hartford, Conn.—Section 4 of the traffic ordinances reads as follows: "No vehicle shall stop or stand within the intersection of any streets, or of any street and driveway, nor within ten feet of a street corner or hydrant."

To some merchants on Main street paying a rental of thousands of dollars a year for the privilege of doing business on this street this ordinance prevents customers from leaving their motors or teams in front of the store while they patronize the stores. Upon these merchants it is contended an injustice is worked.

475,778 Trees in City of Paris.

Paris, France.—The trees, which form a large part of the charm of Paris, have just been counted by the bureau of municipal statistics. They number 475,778 and include only those on public property, such as boulevards, parks and squares. Maps are in preparation showing the location of all the trees, each of which will hereafter receive the attention of skilled gardeners, so that Paris may never be deprived of the right to make the boast that it is one of the greatest forests in France.

City Can Buy Cement Plant For \$550,000.

Los Angeles, Cal.—Declaring the advisability of the city purchasing the aqueduct cement plant, the aqueduct advisory board informally reached the conclusion that the plant could be taken over by the city at a price of \$550,000. No formal action was taken on the matter, but members of the board strongly advised it and it is expected that it will be taken up formally at the next session.

Municipal Moving Pictures.

Pittsburgh, Pa.—Moving pictures in the city's public parks, notwithstanding opposition brought by the church people, seem to be an assured fact before the end of summer. The church people did not mind the pictures on week evenings, but are opposing the showing of them Sunday nights. The councilmen have argued the question over and over and have heard both sides, for and against. Their conclusion has been that it would be all right to show them Sundays, for at that time whole families could enjoy them, which would not always be the case during the evenings of the week. A subcommittee of council, on August 6, recommended that \$250 be appropriated for the pictures, this to cover 10 performances. The Sunday night question was left open for the present. It was the consensus of opinion of the committeemen, however, that the picture shows would be no more demoralizing than the Sunday night band concerts which are given regularly during the heated months. The Pittsburgh Photoplay Company offer to supply films for the Sunday night shows free.

First Statement on City Grocery.

Schenectady, N. Y.—With the city as the principal customer of the municipal grocery store which is being conducted in the basement of the city hall annex, the first financial statement of the business since its beginning shows that the grocery has been conducted at a small loss, but just how much cannot be accurately ascertained at the present time as the inventory for the period ending July 15 has not been computed. The receipts show that the charities department has purchased \$750.33 worth of groceries out of a total of \$979.72, which means that the retail cash sales have amounted to but \$229.39 since June 1. No statement is available showing disbursement after July 1 or receipts after July 6.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Improvements—Sub-Contractor's Lien.

Berger Mfg. Co. v. City of New York et al.—Lien Law authorizing the filing of a lien at any time before the completion of a public improvement, and within 30 days after such completion and acceptance, the right to file a lien does not expire until the improvement is completed and accepted, and 30 days has elapsed thereafter, and one may file a second lien within the 30 days after the completion and acceptance of the work to reassert a prior lien by delay in its enforcement.—Court of Appeals of New York, 99 N. E. R. 153.

Improvements—Damages—Commissioners.

Cornish v. Village of South Nyack.—Commissioners to make awards for damages from a change of grade are to view the property for themselves and reach such conclusion as in their judgment is just and proper, and it is for them to determine the weight to be given the evidence produced before them and to the credibility of the witnesses; and they are untrammelled by technical rules of evidence, and unrestricted as to their sources of information.—New Supreme Court, 136 N. Y. S. 390.

Public Improvement—Damages—Measure.

Nelson v. City of Atlanta.—Where a city lawfully constructs a viaduct in the extension of one of its streets, which interferes with an abutter's right of ingress and egress, in a suit by the abutter against the city for consequential damages, the measure of damages is the diminished market value of the property. If the market value of the abutter's property has not been decreased, there can be no recovery.—Supreme Court of Georgia, 75 S. R. 245.

Injury to Pedestrians—Opinion—Evidence.

Wolverton v. Village of Saranac.—While, on the question of a street commissioner's attention having been called to a defective sidewalk, it was competent for one to testify to a conversation he had with the commissioner with reference to the walk, he could not testify to what the commissioner understood from the conversation; any question as that being for the jury.—Supreme Court of Michigan, 137 N. W. R. 211.

Property Exempt from Taxation—Statute.

Union Trust Co. v. Common Council of City of Detroit.—Under Const., providing that the term "corporation" shall be constructed to include associations and joint-stock companies, and Comp. Laws. sections providing that personal property for purposes of taxation shall include shares in corporations, where the property of the corporation is not exempt, and that all corporate property, except where some other provision is made by law, shall be assessed to the corporation, a domestic trust company, owning stocks in other domestic corporations or partnership associations limited, which pay taxes in Michigan on their property, is entitled to use such stocks as an offset in determining the valuation of its property for taxation.—Supreme Court of Michigan, 137 N. W. R.

Civil Service—Designation of Employment.

Gilmur v. City of Seattle, et al.—Prior to April 1, 1905, complainant was "foreman of outside construction" when his position was placed under the civil service, and an ordinance passed creating the position of "foreman of the poll gang" intended to cover complainant's position. He thereupon passed the requisite examination and continued to hold the same. In December, 1908, an ordinance was passed renaming the different positions in the department, and changing the name of complainant's position back to "foreman of outside construction" after which he was carried on the rolls of the city under the new title. **Held**, that the ordinance of 1908 did not create a new position to which complainant was required to be appointed after passing a new examination, but merely renamed his former position, which he was entitled to hold under his appointment.—Supreme Court of Washington, 124 P. R., 919.

Injuries to Employees—Notice.

Gaughan v. City of St. Paul.—Section of the charter of the City of St. Paul, which is substantially identical with R. L. 1905, requiring written notice of injuries caused by any defect in any bridge, street, etc., or by reason of any alleged negligence of any officer, agent, servant or employee of the said city, to be given to the city council as a condition precedent to the right to sue therefor, does not require such notice as a condition precedent to the right of an employee of the said city to sue for injuries caused by the city's failure to provide such employee with a safe place in which to work, or by the city's violation of any of the absolute duties of a master to the servant.—Supreme Court of Minnesota, 137 N. W. R. 199.

Commission Government—General Laws.

Salter v. Burk et al.—By the act entitled "An act relating to regulating and providing for, the government of cities, towns, boroughs and other municipalities within this state," the management of municipal affairs is intrusted to a board of commissioners; but it largely leaves the mechanism of the adopting city's government and the provisions of its charter untouched. It does not alter general laws or charter provisions relating to the government of such city, except when inconsistent with its provisions.—Supreme Court of New Jersey, 83 A. R. 973.

Waterworks Franchise—Validity.

Bismarck Water Supply Co. v. City of Bismarck.—The City of Bismarck in May, 1886, passed an ordinance granting to the Bismarck Water Company, its successors and assigns, a license to lay and maintain water mains and pipes in the streets of such city for the period of 20 years for the purpose of distributing water throughout the city for sale to such city and its inhabitants. Pursuant thereto such water company constructed and established a water system and waterworks and maintained the same until the year 1898, at which time it sold and assigned its franchise, together with its water plant, mains, pipes, etc., to the plaintiff, and the latter has maintained such plant at all times since such date.

Prior to the expiration of such franchise and in May, 1905, defendant city passed an ordinance granting to plaintiff a new franchise for the period of 20 years to take effect at the expiration of the old franchise, and which ordinance expressly provided that, in case of a change of grade of any street, the city should reimburse plaintiff for the expenses incurred by it in changing and relaying its mains and pipes necessitated by a change of such grade, and pursuant to such ordinance an express contract was entered into between said parties embracing, among other things, an express stipulation to the like effect.

Held: That such ordinance and contract are valid and enforceable, and the city did not exceed its powers in obligating itself to reimburse plaintiff for such expenses.—Supreme Court of North Dakota, 137 N. W. R., 33.

Defective Sidewalks—Contributory Negligence.

Dolding v. City of St. Charles.—Where the evidence showed that a person injured by defects in a sidewalk had no knowledge of such defects, that she was injured during the night, and that there were no street lights to aid her observation, the question of her contributory negligence was for the jury.—St. Louis Court of Appeals. Missouri, 149 S. W. R. 51.

Drainage—Trespass.

Walther v. City of Cape Girardeau et al.—A city is not entitled to recover against a property owner the cost of constructing a drain across his lot, where the city committed a trespass in taking possession of the lot and in constructing the drain.—St. Louis Court of Appeals. Missouri, 149 S. W. R. 36.

Assessment—Railroad Right of Way.

New York Bay R. Co. v. City of Newark.—The proper rule with respect to assessments for local improvements is that the right of way of a railroad company, being in legal contemplation land used for railroad purposes, cannot be assessed upon the basis of the enhancement of its market value, but may be assessed to the extent of actual benefits conferred upon such land for railroad purposes.—Court of Errors and Appeals of New Jersey, 83 A. R. 962.

NEWS OF THE SOCIETIES

Calendar of Meetings.

- August 26-30.
INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS.—Seventeenth Annual Convention, Peoria, Ill.—Clarence R. George, Secretary, Houston, Tex.
- August 27-29.
UNION OF CANADIAN MUNICIPALITIES.—Annual Meeting, Windsor, Canada.—W. D. Lighthall, Secretary-Treasurer, 305 Quebec Bank Building, Montreal, Quebec, Canada.
- August 28-30.
FOURTH INTERNATIONAL SCHOOL HYGIENE CONGRESS.—Meeting, Buffalo, N. Y.—Dr. Thomas Storey, Secretary, Convent avenue and 139th street, New York, N. Y.
- August 28-30.
VIRGINIA STATE FIREMEN'S ASSOCIATION.—Twenty-sixth Annual Convention and Tournament, Roanoke, Va.—L. E. Lookabill, Vice-President, Roanoke.
- September 2-7.
INTERNATIONAL CONGRESS FOR TESTING MATERIALS.—Sixth Congress, New York City.—H. F. J. Porter, Secretary, 29 West 39th street, New York City.
- September 6-13.
CONGRESS ON APPLIED CHEMISTRY.—Meeting, Washington, D. C.—Bernard C. Hesse, M.D., Secretary, 25 Broad street, New York, N. Y.
- September 16-19.
ILLUMINATING ENGINEERING SOCIETY.—Annual Convention, Niagara Falls, Canada.—P. S. Millar, Secretary, 29 W. 39th street, New York City.
- September 17-20.
INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS.—Annual Convention, Denver, Col.—James McFall, Secretary, Roanoke, Va.
- September 18-19.
NEW ENGLAND WATER WORKS ASSOCIATION.—Thirty-first Annual Convention, Washington, D. C.—Willard Kent, Secretary.—Headquarters, Boston, Mass.
- September 18-20.
AMERICAN PUBLIC HEALTH ASSOCIATION.—Washington, D. C.—Seldcar M. Gunn, Secretary, 289 Fourth avenue, New York, N. Y.
- September 18-20.
LEAGUE OF AMERICAN MUNICIPALITIES.—Sixteenth Annual Convention, Buffalo, N. Y.—John MacVicar, President, Des Moines, Ia.
- September 23-28.
FIFTEENTH CONGRESS ON HYGIENE AND DEMOGRAPHY.—Meeting, Washington, D. C.—Dr. John S. Fulton, Secretary, Army Medical Museum, Washington, D. C.
- September 24-26.
CENTRAL STATES WATER WORKS ASSOCIATION.—Sixteenth Annual Convention, Detroit, Mich.—R. P. Bricker, Secretary, Shelby, O.
- September 24-28.
CHAMBER OF COMMERCE AND INDUSTRIAL AND COMMERCIAL ASSOCIATIONS.—Fifth International Congress, Boston, Mass.
- September 30—October 5.
AMERICAN ASSOCIATION FOR HIGHWAY IMPROVEMENTS.—Annual Convention, Atlantic City, N. J.—J. E. Pennybacker, Jr., Secretary, Colorado Building, Washington, D. C.
- October 2-12.
FIRE EXPOSITION AND INTERNATIONAL CONFERENCE OF FIRE PREVENTION, PROTECTION AND EXTINGUISHMENT.—Madison Square Garden, New York City. A. D. V. Storey, Secretary, 1269 Broadway, New York, N. Y.
- November 12-15.
AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.—Annual Convention, Dallas, Tex.—A. Prescott Folwell, Secretary, 50 Union Square, New York.
- December 3-6.
AMERICAN ROAD BUILDERS' ASSOCIATION.—Ninth Annual Convention, Music Hall, Cincinnati, O.—E. L. Powers, Secretary, 150 Nassau street, New York City.
- December 12-18.
NATIONAL ASSOCIATION OF CEMENT USERS.—Annual Convention, Pittsburgh, Pa.—R. L. Humphrey, President, Harrison Building, Philadelphia, Pa.

American Association for Highway Improvement.

In the midst of the preparation of his speech of acceptance, Gov. Woodrow Wilson paused long enough to write individual letters to every governor in the United States urging that they attend the American Road Congress to be held in Atlantic City, September 30 to October 5. Or that they at least appoint delegates to represent their states. While many of the states have arranged to have booths where their maps and publications will be displayed, Governor Wilson expressed his desire that all the states be represented personally either by the Governor or by delegates appointed by the Governor.

Governor Wilson is taking intense interest in the Congress and the gathering in Atlantic City will probably mark the only meeting of the democratic candidate for the presidency with his republican opponent President Taft. Governor Wilson is to make the address of welcome and President Taft has also consented to make an address.

Not only the fact that both Governor Wilson and President Taft will be present but the general character of the Congress makes it certain that it will be one of the biggest conferences outside of those of a political nature ever held in the United States. It is quite probable that President Taft and Governor Wilson will have an opportunity to meet the Premier of Canada in the course of the Congress as the officials of the Dominion are showing great interest in the Congress and have indicated that it will have their full support. Efforts are being made to have Premier Borden attend the Congress and it is quite possible that he will do so. A number of other Canadian officials have announced their intention of going from their country to this country along the proposed Quebec-Miami route in automobiles and it is probable that they will discuss the completion of the route, which begins in Quebec and is mapped out to end at Miami, Florida, during the sessions if the American Road Congress.

Connecticut Good Roads Association.

This new association was organized at Bridgeport, Conn., Aug. 19, at a meeting of delegates from the various boards of trade, business men's associations and the automobile club of Connecticut.

George M. Eames of Bridgeport was chairman of the meeting, and Attorney Charles M. Robinson of New Haven, acted as secretary.

A constitution was adopted, in which the objects are stated: The promotion of good roads in Connecticut; to endeavor to secure the co-operation of the legislature for better constructed highways; and especially to endeavor to secure permanent pavements for the highways.

Officers were chosen as follows: President, Henry A. Bishop of Bridgeport; first vice-president, Don C. Seitz, of Greenwich; second vice-president, General Wallace T. Fenn, of Hartford; third vice-president, George M. Eames, of Bridgeport; secretary, Charles M.

Robinson, New Haven; treasurer, Philip Pond, New Haven.

The chairmen of the following committees were also named: Legal, C. M. Robinson, New Haven; finance, Walter H. Holmes, Waterbury; technical, Fredrick L. Ford, New Haven; membership, F. H. Mason, New Haven; publicity, J. M. Emerson, Ansonia.

The matter of merging the association with the Road Builders association, recently formed in New Haven, was discussed, but no definite action was taken.

The constitution states that the objects are the promotion of an organization of associations, organizations, clubs and individuals interested in good roads. Also to secure by its efforts rational legislation governing the construction of public highways of Connecticut, and especially to promote and encourage the construction and maintenance of permanent pavements on the trunk highways of Connecticut. The corporation shall be supported by the dues or subscriptions of its members and shall not be conducted for profit. Clubs of not less than twenty-five members and individuals shall be eligible for membership. The charter will remain open until January 1, 1913.

Michigan Good Roads Association.

When the Association holds its annual convention in Kalamazoo September 18 and 19, a program of legislative action aimed toward the promotion of a state-wide movement for better roads will be started. It is expected that such a campaign will reach every county and township in the state. While the complete program of the convention has not been completed it was announced this morning that Horatio S. Earle, of Detroit, would be one of the prominent speakers. He will address the members on the subject of "National Highways." Edward N. Hines, one of the Wayne county road commissioners, is also slated to make an address and tell of some of the methods employed in solving the good roads problem. Aside from the men throughout the state who have been connected with the good roads movement in the different counties it is understood that several identified with the automobile industry are planning to attend the meetings in this city.

Maine Fire Chiefs' Association.

The members of this new association met at Augusta, August 7. The forenoon was occupied with sight-seeing about the city, the party being taken out in two large buckboards by Chief John A. Buckley of the Augusta fire department. Luncheon was served at noon at the Cushnoe engine house. A banquet was served at 7 p. m. Speeches were made by Mr. Hanks and Chief Buckley. Chief Flaherty of Portland, president of the association presided at the business session. The other officers present were the vice president, Chief Mason of Bangor, and the treasurer, Deputy Chief Thomas Payne of Portland. The resignation of Chief Bennett of Sanford as secretary was accepted and Chief John A. Buckley of Augusta elected secretary in his place. Chief S. D. Soule of Gardiner acted as secretary pro tem., during the business session. Speeches were made by Chief Johnson of Waltham, president of the Massachusetts Fire Chiefs' Association, and Chief

William Cade of Wakefield, Mass., two of the guests of the evening, Chief Flaherty of the Maine association and others. The matter of proposed legislation in the interests of fire department efficiency was discussed at some length and it was voted that each chief connected with the association submit five or more suggestions in legislation to the secretary, the secretary to present these questions to the committee on legislation.

Maine Society of Civil Engineers.

Over fifty members of the Society attended the annual meeting at the Congress Square Hotel August 14-15. On the afternoon of the 14th, a trolley trip was taken to Fort Williams. A banquet was given in the evening. Following the banquet two papers were read. Henry W. Foster of Cumberland Mills delivered a lecture on the Hydraulic Development of the Presumpscot River, which was illustrated by stereopticon slides, and Seth A. Moulton of Portland delivered an address on the Cost of Steam Power.

On the morning of the 15th the following papers were read: The Farmingdale Station of the Central Maine Power Company by Frank H. Mason, and The Title of Soil in the District of Maine by J. H. Stuart. After lunch a boat trip down Casco Bay to South Harpswell was taken.

The officers of the society are: Walter H. Sawyer of Lewiston, president; Harold S. Boardman of Orono, vice president; Frank E. Pressey of Augusta, secretary and treasurer; and G. E. Greenwood of Skowhegan, E. C. Jordan, Portland, Charles A. Mixer, Rumford Falls, John Calvin Stevens, Portland, and Cyrus C. Babb of Augusta, directors.

Wisconsin Association of Police Chiefs.

Fifty-seven police chiefs attended the fifth annual convention of the association at the St. Charles Hotel, Milwaukee, August 7. The reading of the annual address of the president of the association, H. C. Baker, Racine; the secretary's report by J. B. Webber, La Crosse, and several papers by other members of the association featured the first day's session. In the course of his address President Baker advised that great care should be exercised in the manner in which search warrants are handled. Violence, he said, was seldom necessary in making an arrest. Regarding auto speeding, he advocated jail sentences for violators of the law.

H. F. Dowling, Oshkosh, read a paper on "The Motorcycle, a Necessity of Every Police Force, Which is Thoroughly Approved by the Public."

August Scheck, Sheboygan read a paper on "Vice and Youth." He spoke of ice cream parlors and moving picture houses among the newer evils with which police departments would have to contend. He also favored the passage of curfew laws.

George Groffman, Manitowac, read a paper on "Promptness in Police Departments."

Owen O'Hara, Wausau, read a paper on "Suggestions to Police Chiefs." He recommended that a state board of criminology be founded to cooperate with the United States board, and operate from a central office in the state.

Donald McKay, Waukesha, made a few remarks on the dance hall ordinance.

Chief Janssen, Milwaukee, suggested that every chief of each fourth class city send to the legislative committee information as to the condition in his respective city and what he desires so as to enable the committee to draft a competent bill informing the legislature what they want in the way of protecting lives and property; that the legislative committee meet at some date prior to the convening of the legislature to look over and review the ideas as submitted by the various chiefs as a whole.

Papers were discussed and a resolution adopted favoring the passage of an ordinance; such as is now before the common council of Milwaukee, for the regulation of dance halls.

The following officers were elected: President—Chief August Scheck, Sheboygan. Vice President—Chief Thomas Malone, Wausau. Secretary Treasurer—Chief Don McKay, Waukesha.

International Rubber and Allied Trades' Exposition.

Under the auspices of twenty-two governments, each of which will be officially represented by accredited delegates, the exposition will open September 23 at Grand Central Palace, New York City, and will remain open until October 3. Most of the twenty-two governments concerned in the undertaking are states of the British empire. South and Central American republics and territories of the United States. The general plan of the exposition is comprehensive and is being carefully worked out. In the main exhibition hall of the Palace, will be installed the exhibits of rubber-making machinery and rubber manufactures. Here will be given actual demonstrations of the various processes that lie between the collection of latex to the production of automobile tires and other finished goods. The lobby, entrance, grand stairway and even some of the pavement in front of the building will be covered with rubber to demonstrate the value of the substance in that way.

The mezzanine floor, will house the exhibits showing the reclaiming of rubber, compositions and chemicals. The floor above will be devoted to exhibits of crude rubber in various shapes and forms. Brazil will have an immense booth showing the importance of the indigenous production and close by will be the exhibit of Ceylon, depicting the condition of the plantation industry. One of the most interesting sections of the show will be the exhibit from Hawaii. Recently the cultivation of rubber in the Hawaiian archipelago was rewarded by success and 1 ton of plantation rubber grown from seeds of the Hevea Brasiliensis will be shown. The industry has not made very satisfactory progress in the Philippines, having had a poor start. Probably the most valuable and illuminating feature of the show will be the comparison that will be made of the relative value to the industry and public at large of the indigenous and plantation product. Plantation rubber marketed so far this year in the regular fortnightly auctions in London is far in excess of the 1911 figures for the same period.

American Association for Highway Improvement.

Realizing the need for the most modern methods of financing the construction and maintenance of public roads, Lee McClung, Treasurer of the United States, has accepted an invitation to preside over the finance section of the American Road Congress which will be in session in Atlantic City from September 30 to October 5. In an interview Mr. McClung calls attention to the urgent need for the introduction of reforms in the management of road finances. "My observations," he said, "lead me to believe that in comparatively few instances is the same care taken of funds for road improvement as is taken by financial institutions for private enterprises. Legislation and regulation should be urged in each State so as to provide for the laying of road revenues on carefully prepared estimates, for the introduction of simple yet thorough systems of accounting and cost keeping, for a system of regulating bond issues which would insure economy and wise business management. As one of the possibilities worth considering, I might simply refer to the difference between the sinking fund method and the serial bond method—as applied to bond issues—and their relative merits." Mr. McClung said that he was much gratified to note the activities of the various state bankers' associations in the good road movement. He believes that the financiers of the country have a great deal to do with shaping the road movement along the right lines and he expresses the hope that every state bankers' association will have its representatives at the conference on road finances.

PERSONALS

Jackson, Dr., Robt. J., Rapid City, S. D., first Mayor under commission form of government has resigned his office after two years of service.

Linehan, Joseph, San Francisco, Cal., has been appointed superintendent of the Sewer Department.

Noble, E. C., Houston, Tex., has been appointed Chief of Police.

Mandell, T. H., Lake Charles, La., has been appointed City Engineer.

Dravis, George F., Roselle, N. J., has resigned as Chief of the Fire Department and Overseer of the Poor.

Buckley, John A., Augusta, Me., Chief of the Fire Department has been elected secretary of the Maine Association of Fire Chiefs.

Robinson, E. W., Webb City, Mo., who for the past three years has been assistant engineer has been appointed City Engineer.

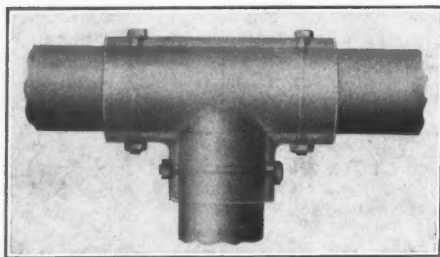
Govin, R. R., New York City, of the banking firm of H. B. Hollins & Co., has been elected president of the United States Asphalt Refining Company, succeeding the late Walter S. Wilkinson of Baltimore. Philip Walter Henry, of New York, has been elected member of the Board of Directors to fill the vacancy in the board caused by Mr. Wilkinson's death. Mr. Henry was formerly vice-president of the Barber Asphalt Paving Company.

Headlee, Dr. T. J., formerly State Entomologist of Kansas, has been appointed State Entomologist of New Jersey, succeeding the late Dr. John B. Smith. Dr. Headlee will continue the work begun by Dr. Smith for the extermination of mosquitoes.

MUNICIPAL APPLIANCES

Everwear Playground Apparatus.

The Everwear Manufacturing Company, corner Sycamore street and C., C. & St. Louis Railway, Springfield, O., manufacture all-steel playground apparatus which reflects many of the thoughts and ideas of the foremost physical directors and playground organizers of the country. The quality of apparatus as the manufacturers state in an attractive catalogue, is a potential factor in the success of the playground. Public playground apparatus is subjected to the severest use and sometimes to abuse. It must stand exposure to the weather, and give service under the worst conditions of heat



FITTING WITH COMPRESSION SHOULDER BOLTS.

and dust. Each device should suggest its proper use even to children and must be strong and so arranged that it will not collide or interfere with any other while in use.

Everwear fittings are strongly made, have no threads and are designed to permit ease in setting up. They are equipped with compression shoulder bolts, as shown in the shadow illustration, or with set screws. The shoulder of the bolt passes freely through the top of the fitting and when the power is applied it pinches the pipe solidly to the lower part of the fitting, thus locking the frame rigidly. Fittings for joints of various combinations are made uniform, thus reducing the number of fittings to a minimum, and producing a symmetrical frame. The various trace clamps and fittings are made to fit standard sizes of galvanized wrought iron pipe, the use of which is recommended. Galvanized pipe costs but little more, saves painting, and in the long run is more economical. The clamps used with fly-

ing rings, flexible ladders, etc., have roller bearings.

The giant stride, shown in the illustration, is a popular and well-known piece of apparatus for parks and playgrounds. The spider head is 21 inches in diameter from tip to tip and weighs 25 pounds. In assembling it steel rolls and large ball bearings are used. The three parts are locked together by means of a one-inch steel center pin.

Eight handles of the ladder type, all steel and not galvanized, are attached to the head by means of detachable safety hooks. The stride head is furnished with or without ladder handles, and for either a 4-inch steel or wooden pole. When it is desired to use knotted ropes for handles instead of ladders, there are furnished with detachable hooks woven to them and the lower end interwoven to prevent fraying. The pole for the stride should be 14 feet above the ground and 4 feet in the ground. Children ride more easily, securely and longer with a long rope than with a short one.

The Everwear catalogue lists 84 pieces of apparatus and outfits. Among these are the dome or arch ladders which multiply the physical benefits derived from the use of the horizontal ladder and greatly enlarge the opportunity for exercise and fun in such games as catch, tag, follow the leader, etc. Apparatus of this type satisfies the desire for getting up in the air and for rapid motion. The dome ladders are generally 12 feet high at the center

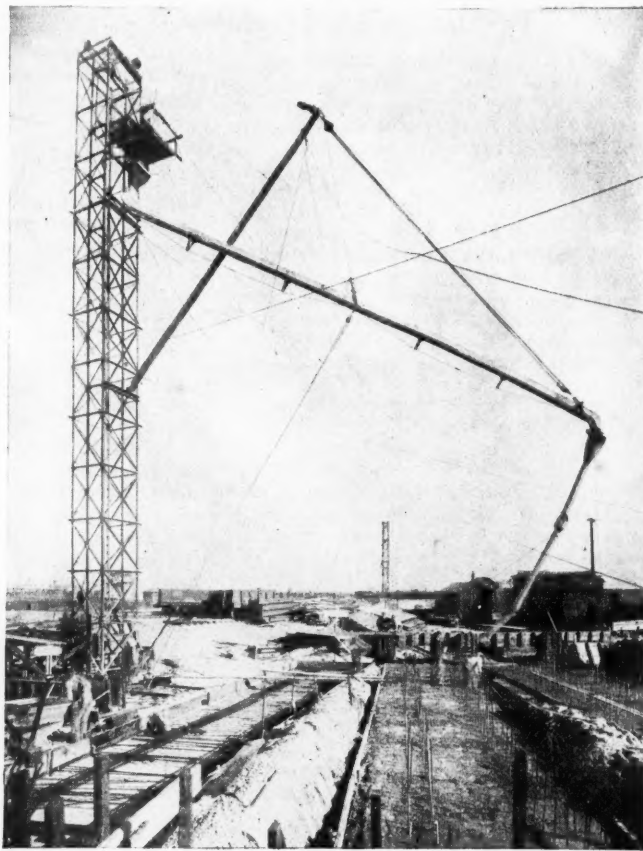


EVERWEAR GIANT STRIDE FOR PLAYGROUNDS.

and cover a ground space 24 feet in diameter. The rails are of 2-inch galvanized pipe locked together by means of a strong center fitting around a 3-inch pipe upright. This upright may be extended above the top of the dome as a support for lights.

Movable Steel Tower for Chuting Concrete.

The Chain Belt Company, Milwaukee, Wis., have made a movable steel tower for distributing concrete in connection with the construction of a roundhouse for the Lake Shore railroad in Chicago, Ill. The tower and



MOVABLE STEEL TOWER FOR CHUTING CONCRETE.

method of operation were devised by W. B. Louer, of the Chain Belt Company, and the contractors, Ford & Phillips Company.

The chief difficulty in this particular job is that concrete has to be distributed over such large area, the roundhouse being 405 ft. in diameter. Also the pit walls are so high above grade that distributing by wheel barrows is impossible and the cost of a series of wooden towers is found to be prohibitive, three towers costing nearly \$2,200.

Considerable ingenuity had to be exercised in the design of the tower to make it portable and flexible so that concrete could be placed in any part of the range of its spout which is 60 ft. long, with an additional loose vertical spout 30 ft. long. This enables placing concrete 95 ft. away from base of tower.

The horizontal spouting is made of heavy galvanized iron 10 in. x 10 in., open at the top, and is set on a light frame steel truss. The steel truss and spouts are all supported by a 40 ft. boom which is rigged from top of tower and held in place by steel blocks and cable running to a winch. The winch is secured to side of tower so

that the boom spout and loose leg may be raised or lowered or swung in a semi-circle giving a wide range of work and placing concrete anywhere within a radius of 95 ft.

The steel tower is 72 ft. high made up of 6 ft. sections, sections being composed of steel angles and channels skids that have steel liners, which rest on railroad rails, making the whole rigging easy to move.

After the concrete has been placed in one section the tower is drawn back along the rails by means of the hoisting engine of the tower. This operation is accomplished by loosening the guy wires and a change of 60 ft. can be made in about four hours time. Then they are ready to distribute again. Up to date the Ford & Phillips Co. have moved the tower six times.

The concrete is mixed by a concrete mixer which is situated about 600 ft. away from the tower on account of having the mixer near the storage bins which are on a railroad siding. The mixer discharges into 16 cu. ft. Lake-wood cars which are conveyed to the tower, and the concrete is dumped in the bucket of the elevator and hoisted to the top of the tower where it is automatically dumped into the receiving hopper. This receiving hopper has a gate which is operated by a man standing on a platform at the top, and he regulates the flow of the concrete through the spouts.

Twelve men are used in this plant, including those that load the loose material in the mixer, engineers connected with the mixer and hoisting engine, and those that spread the finished concrete. A $\frac{1}{2}$ yard mixer is used, and an average of 18 to 20 cu. yds per hour or 150 cu. yds. to a day of eight hours is being turned out.

Reinforced Galvanized Spiral Pipe.

Standard Spiral Pipe Works, 25 North Dearborn Street, Chicago, Ill., are placing on the market a reinforced galvanized spiral pipe which is made from two strips of steel of different widths and with a continuous interlocking seam. Both strips of steel are rolled to shape on the edges and are inter-locked and rolled down under very high pressure in a special machine which the company has patented. The strips of steel are first cut the required width from long sheets of steel and the ends are welded together. The steel is then placed on large spools. The strip used for the outside or reinforcing band comes from the steel mills in long lengths on reels. Both these strips are fed into the machine at one end rolled down, and inter-locked in the machine, coming out at the other end in the shape of pipe.

This pipe is smooth on the inside and has the reinforcing band running on the outside the full length of the piece, and can be made endless. This strip is not welded or soldered on the pipe but is interlocked in the form of a continuous seam. Ample folds are made on both strips so that a large bearing surface or contact is obtained at the seam.

A soft open hearth steel is used

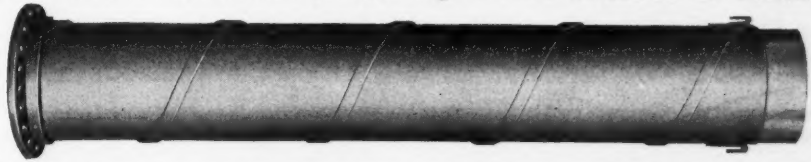
which will stand the required bending, and the steel is not weakened by being rivet-holed. In winding the steel into the spiral form advantage is taken of all the tensile strength and stiffness which the material has. Lighter gages of this pipe can be used, it is claimed, for pressures that would require considerably heavier gages by any other method of construction.

It will also be noticed that in the

can also be produced from brass or copper.

The method of connecting or joining lengths of Standard reinforced spiral pipe is much the same as the methods used by manufacturers of straight riveted or spiral riveted pipe.

This company is furnishing a slip sleeve joint made with a seamless sleeve welded into one end of the pipe; lugs are also welded on the outside of



REINFORCED SPIRAL PIPE—FLANGED AT ONE END—SLIP SLEEVE AND LUGS AT OTHER.

construction of reinforced galvanized spiral pipe there are no rivet heads protruding on the inside, but the pipe is smooth inside therefore has the least possible frictional resistance to the flow of water and other substances. Its lightness enables it to be moved from place to place and to be installed in difficult places of access and in every locality cheaper than any other pipe. It will be noticed that at the point where the reinforcing band passes around the pipe there are four thicknesses of metal.

A number of bursting tests have been made on this pipe. One at the Armour Institute with a piece of 18-in. No. 20 gage reinforced galvanized spiral pipe. It required 235 pounds hydraulic pressure to burst the seam. Another was made on a piece of 16-in. No. 20 gage where the hydraulic pressure was raised up to 320 pounds, at which the wide band of steel between the two seams commenced to bulge out, and actually expanded three-quarters of an inch in diameter. The pressure was then turned off and a section cut out of the pipe and it was found that the seam had not been affected. There was no sign of fracture or opening of the seam either on the inside or on the outside.

Standard Reinforced Spiral Pipe can be supplied in any required length up to 20 ft., galvanized and asphalted in any required length up to 25 ft. When considering the economy and lasting qualities of pipe, one of the most important items to be taken in account is the coating which is given it. It is an established fact that any pipe either galvanized or coated in any way is better protected if this coating is applied after the pipe has been formed and after the connection at the ends such as forged steel flanges have been attached. All Standard reinforced spiral pipe is asphalt coated or galvanized after completion. In this manner there is no fracture liable to occur in the coating when forming, and every part of the surface is thoroughly coated. The company can also produce this pipe made from American Ingot Iron, known to be one of the best rust resisting irons or we can make it from Toncan metal, Vesmera or any other iron or steel of special analysis. It

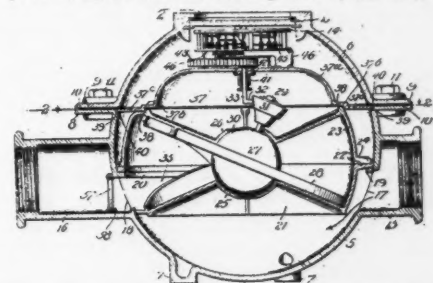
both ends of the pipe. In making connection, one end is slipped into the other. The pipes are then drawn together by wire over the lugs and a good joint is obtained for water pressure to 60 lbs.

One other style of connection is a forged steel flange which is electrically welded on to the end of the pipe and furnished with bolts and gaskets complete. This pipe can also be furnished with cast iron or forged steel bolted joints.

PATENT CLAIMS

1,034,479. WATER METER. William J. McCourt and Michael W. Coghlan, Chicago, Ill. Serial No. 515,204.

In a water meter, the combination with an outer casing comprising a body portion having supply and discharge ports and an internal annular ledge at its upper end, and a cover therefor provided with a glass top, of a measuring device located in said body portion and having an upper annular edge spaced inwardly from said annular ledge of the outer casing, an imperforate partition member comprising a central dome-shaped portion above said measuring device, an inter-



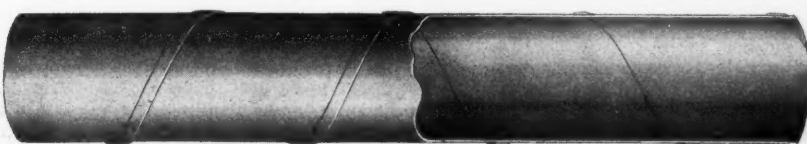
mediate flat annular portion resting upon and forming a water-tight joint with the annular upper edge of said measuring device, and an outer annular portion spanning the space between the upper edge of said measuring device and the opposite inner wall of said outer casing and at its outer edge resting upon and forming a water-tight joint with said annular ledge, and a registering mechanism mounted on the central dome-shaped portion of said partition directly beneath the glass top of said cover, substantially as described.

1,035,414. APPARATUS FOR DISTRIBUTING SEWAGE OR OTHER LIQUIDS. Robert Barrington Brown, Fishgate, England. Serial No. 550,749.

Apparatus for distributing sewage or foul effluents, comprising a pipe provided with



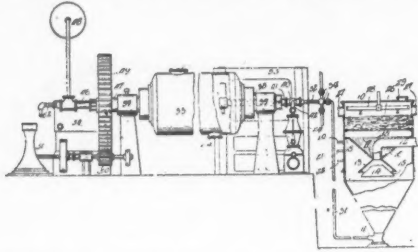
plurality of spraying orifices, means for feeding the liquid thereto, and means for utilizing the momentum of the flowing liquid to raise the pressure of discharge from the said orifices to increase the area of distribution and assist in maintaining the orifices clear.



REINFORCED SPIRAL PIPE CUT TO SHOW SMOOTH INTERIOR.

1,035,797. APPARATUS FOR REDUCING SEWAGE AND THE LIKE. Angus MacLachlan, Brooklyn, N. Y., assignor to Hammond Iron Works, Warren, Pa., a Corporation of Pennsylvania. Serial No. 662,883.

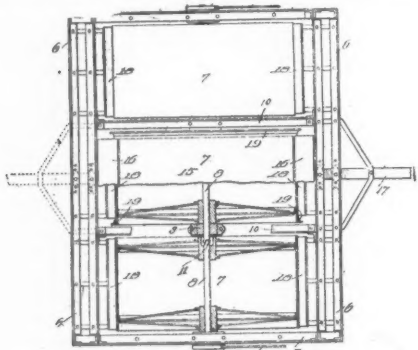
In an apparatus for reducing sewage and the like, settling tanks, a drier, means for creating a partial vacuum in the drier an exhausting vapor therefrom, means of communication between the drier and the settling tanks near the bottoms thereof whereby



the partial vacuum in the drier will serve to draw material from the settling tanks, means of communication between the tanks and the means for creating a partial vacuum in the drier whereby the liquid in the settling tanks may be drawn therefrom, and means of communication between the means for creating the vacuum and the said tanks whereby the liquid drawn from one tank may be returned to another tank.

1,035,335. ROAD-ROLLER. James C. Findlay, Marquette, Mich. Serial No. 669,736.

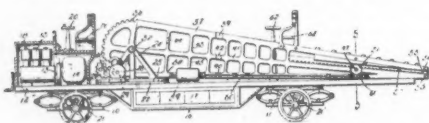
A road-rolling machine, comprising a supporting frame, a jointed sectional axle, comprising end sections and an intermediate sec-



tion, the end sections of the axle being vertically adjustable and the intermediate section being fixed, and rollers carried by the respective axle sections.

1,035,570. TRUCK EXTENSION-LADDER. Charles Gary and James E. Marshall, New York, N. Y. Serial No. 638,955.

In an apparatus of the class described, the combination with a pivoted frame and means for swinging same, a motor mounted on said frame, a ladder slidably mounted in said frame having corresponding faces of its side members provided with rack teeth, a pair of paired gear connected shafts journaled transversely of the frame between which said lad-

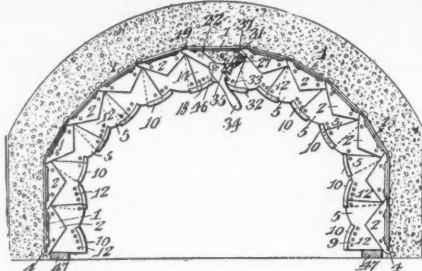


der moves, pinions fixed on one of said shafts, operatively engaging the teeth on the sides of said ladder respectively, rollers fixed on the outer shaft bearing against the non-toothed side of the ladder and connections between the first named shaft and motor whereby the actuation of the latter will rotate the former and effect the sliding of the ladder.

1,035,336. FORM FOR CULVERTS. Martin J. A. Folm, Madison, Wis. Serial No. 604,825.

In a mold form, a mold section comprising a plate of appropriate length designed to retain material and at the ends on the face remote from the retaining face provided with end plates each having its outer edge reversely curved with one of the curved portions formed with a return flange and a series of perforations, and the other curved portion having a perforation designed to match the

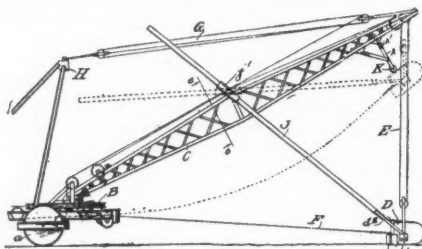
series of perforations of an adjacent end plate, the said end plates being each provided at the edges and in the plan of the retaining plate with ears notched at one side of the first



named plate and provided with a traversing pin at the other side of the first named plate, respectively.

1,035,768. DRAG-LINE EXCAVATOR. Hans J. Benton, Winthrop Harbor, Ill., assignor to Frederick C. Austin, Chicago, Ill. Serial No. 509,738.

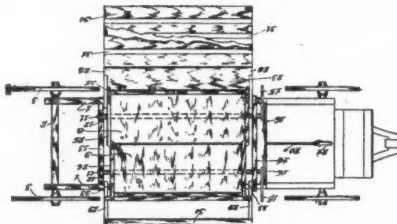
In an excavator, a bucket, a drag-line therefor, a boom, guide beams for the bucket, to keep the bucket moving in a straight line while filling, a pivotal connection between



said bucket and beams, and a wheel on the boom for engaging the bucket to tilt the same about its said pivotal connection and thereby dump the load.

1,035,440. DUMP-WAGON WITH LOADING ATTACHMENT. Preston L. Holcomb, Birmingham, Ala. Serial No. 663,827.

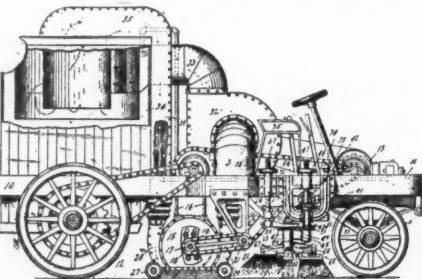
In an apparatus of the character described, the combination of a wagon frame mounted on wheels, a dumping wagon body mounted on



said frame and disposed between the front and rear wheels, side boards on said body adapted to fold down, and loading inclines adapted to rest on said frame and to be interposed between the forward and rear wheels, substantially as described.

1,035,598. STREET-SWEEPER. William L. Kellogg, Indianapolis, Ind. Serial No. 639,562.

In a street sweeper, a gutter brush structure comprising a substantially vertical rotary shaft, an upwardly tilting brush mounted



thereon to tilt on an axis substantially radial to the shaft, means for intermittently upwardly tilting said brush during its horizontal rotation, and means for shifting the brush structure bodily horizontally.

INDUSTRIAL NEWS

Cast-Iron Pipe.—Chicago. Advance in pig iron prices has been followed by a sharp increase in the price of cast iron pipe, particularly in the smaller sizes. Quotations: 4-inch, \$30; 6 to 12-inch, \$28; 16-inch and up, \$27. Birmingham: There is no evidence of accumulations in the yards of pipe makers, while orders from various points promise continual operations on the part of the Alabama plants. Shipments have been very heavy. There is a prospect of an advance in price owing to the condition of the iron market. Quotations: 4-inch, \$24; 6 to 8 inch, \$22; 10-inch and over, \$21.50. New York: Prices have for some time shown a tendency to harden. Bids on public lettings show a steady tendency to advance. The demand for small sizes from private buyers continues to be the feature of the market. No large public lettings are in sight in this vicinity. Quotations: 6-inch, car loads, \$22 to \$23.

Lead.—Prices are much firmer; independents have advanced their prices, and both sellers and producers have faith in the nearness of still higher prices. There is no great amount of activity at the prices quoted, which are 4.50c, New York, and 4.40c, St. Louis.

Pressure Sprayer for Asphalt.

Walter Cressy, Gloucester, Mass., has published a new edition of his descriptive booklet of the Pillsbury Sprayer. Among the letters of commendation printed in the catalogue is one of recent date from James E. Watkins, contractor, 10 Fern avenue, Amesbury, Mass., in which the writer states that he has used the machine for two years with excellent results as to cost and quality of work performed. Mr. Watkins states that he has covered as high as 9,600 square yards with heavy binder in a 9 hour day. The Pillsbury machine operates either by compressed air or by steam taken from the roller which draws it.

Road Machinery.

Leroy A. Kling, who has been connected for some time past with two well known crusher companies in Cedar Rapids, Iowa, has just been appointed as sales manager of the road machinery department of the Wheeling Mold & Foundry Company, of Wheeling, W. Va. The company will eventually manufacture a complete line of road building machinery, including a modern crusher, adjustable to crush to any size, pulverizers, rolls, screens, elevators, trucks and graders.

Cement Shows.—Copies of the rules and regulations, floor diagrams and application blanks have been placed in the hands of the prospective exhibitors at the Pittsburgh and Chicago Cement Shows. With these, announcement has been made that the first general drawing for space will be held in the office of the Cement Products Exhibition Co., 72 West Adams Street, Chicago, on September 26th and that applications to be considered in this first allotment must be filed on or before September 24th. Report from the office of the Exhibition Company indicates that interest in the coming exhibition is undiminished.

(Continued on page 317.)

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Concrete Work—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards.

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Ohio.....	Alliance.....	Aug. 31.....	Constrn. 32,000 yds. pavement	D. M. Armstrong, Director.
Indiana.....	South Berd.....	Aug. 31, 10 a.m.....	Constrn. gravel road	County Commissioners.
Alabama.....	Cullman.....	Aug. 31.....	Macadamizing two roads.....	County Commissioners.
Ohio.....	Fostoria.....	Aug. 31, noon.....	Constrn. pavements in several streets	R. J. Barrett, Clerk.
Ohio.....	Columbus.....	Aug. 31, 1 p.m.....	Con. 1.50 m. waterbound mac. in Jackson. Con. 2.24 m. waterbound mac. in Liberty.. Con. 0.88 m. waterbound mac. in Lick..... Con. 1.36 m. waterbound mac. in Frank- lin, Jefferson and Hamilton	
			Con. 1.13 m. waterbound mac. in Liberty.. Con. 1.07 m. waterbound mac. in Lick.....	
Indiana.....	Terre Haute.....	Aug. 31, 11 a.m.....	Draining and paving road	J. R. Marker, St. Hwy Comr.
Mississippi.....	Laurel.....	Sept. 1.....	Constrn. brick or cressed wood pav't, 60,000 yds.	N. G. Wallace, Co. Aud. J. H. Crawford, City Clk.; Iowa Eng. Co., Clinton, Ia.
New Jersey.....	Elizabeth.....	Sept. 1.....	Constrn. brick and block pavements.....	W. H. Luster, Jr., City Surv.
Illinois.....	Mattoon.....	Sept. 1.....	Constrn. 3,000 yds. concrete	E. T. Guthrie, Pres. B. L. I.
Illinois.....	Rockford.....	Sept. 1, 2 p.m.....	Constrn. 27,195 sq. yds. pavement.....	W. W. Bennett, Pres. Bd. L. Imp.
New Jersey.....	Somer's Point.....	Sept. 2.....	Constrn. 3 gravel streets.....	Geo. Goll, Chrmn. Com.
Indiana.....	Shelbyville.....	Sept. 2, 2 p.m.....	Constrn. concrete & wood floor for bridge.	F. W. Fagel, Co. Aud.
Mississippi.....	Heidelberg.....	Sept. 2.....	Constrn. 40 miles road.....	County Commissioners.
Iowa.....	Clarion.....	Sept. 2.....	Constrn. cement or asphaltic concrete pave.	City Clerk.
Mississippi.....	Tunica.....	Sept. 2.....	Con. 8,000 ft. granolithic & concrete pav.	N. J. Alexander, City Clerk.
Indiana.....	Jeffersonville.....	Sept. 2.....	Constrn. 4,800 ft. macadam	D. W. Stoner, Co. Auditor.
Indiana.....	Salem.....	Sept. 2.....	Constrn. 4 miles gravel road	F. S. Murkelt, Co. Aud.
Indiana.....	Lawrenceburg.....	Sept. 2.....	Constrn. 7 miles crushed stone road	W. G. Fagally, Co. Aud.
Indiana.....	Williamsport.....	Sept. 2.....	Constrn. gravel road	D. H. Moffett, Co. Aud.
Indiana.....	Vevay.....	Sept. 2.....	Constrn. gravel road	Hess Culbertson, Co. Aud.
Indiana.....	Newport.....	Sept. 2.....	Constrn. 4 gravel roads.....	H. T. Payne, Co. Aud.
Indiana.....	Greensburg.....	Sept. 2.....	Constrn. macadam road	L. W. Sand, Co. Aud.
Indiana.....	Vernon.....	Sept. 2.....	Constrn. gravel road	M. W. Brogan, Co. Aud.
Ohio.....	Lowellville.....	Sept. 2, noon.....	Constrn. sidewalks, curbs and gutters.....	C. W. Baker, Clerk.
Pennsylvania.....	Pittsburg.....	Sept. 2, 10 a.m.....	Paving numerous streets	J. G. Armstrong, Dir. P. W.
Mississippi.....	Meridian.....	Sept. 2, 10 a.m.....	Constrn. 22 miles sand clay road	Commission Dist. 5.
Pennsylvania.....	Crafton.....	Sept. 2, 5 p.m.....	Constrn. 1,750 lin. ft. pavement.....	J. S. Harding, Boro. Engr.
Texas.....	Taylor.....	Sept. 2, 8:30 p.m.....	Con. 18,000 yds. brick, bit. or wood pave.	D. L. Noble, City Sec.
New Jersey.....	Perth Amboy.....	Sept. 3, 8:30 p.m.....	Grading 2 streets	G. M. Adair, St. Comr.
New Jersey.....	South Amboy.....	Sept. 3, 8 p.m.....	Constrn. curbing and flagging	R. M. Mack, City Clerk.
New Jersey.....	Jersey City.....	Sept. 3, 2 p.m.....	Imp. Union street	E. B. See, Clerk, Bd.
Texas.....	Beaumont.....	Sept. 3.....	Constrn. rock asphalt pavement	C. L. Scherer, City Engr.
Mississippi.....	Charleston.....	Sept. 3.....	Constrn. 8 miles concrete sidewalks	W. O. McMullen, Mayor.
New Jersey.....	Woodbury.....	Sept. 3, 8 p.m.....	Constrn. 11,000 yds. amesite	Arthur Starr, City Clerk.
Indiana.....	Marion.....	Sept. 3.....	Constrn. gravel road	E. H. Kimball, Co. Aud.
Indiana.....	Bloomington.....	Sept. 3.....	Constrn. gravel road	Horace Blakely, Auditor.
Indiana.....	Monticello.....	Sept. 3.....	Constrn. gravel and stone roads	A. D. Fisher, Co. Aud.
New Jersey.....	Elizabeth.....	Sept. 3, 8 p.m.....	Paving several streets	City Council.
New Jersey.....	Westfield.....	Sept. 3.....	Constrn. 7,000 yds. macadam	Chas. Clark, Town Clerk.
Indiana.....	Jeffersonville.....	Sept. 3.....	Constrn. 2 stone roads	G. W. Stoner, Co. Aud.
Missouri.....	St. Louis.....	Sept. 3.....	Constrn. brick and asphalt pavement.....	W. I. Findly, Sec. E. P. I.
New York.....	Cohoes.....	Sept. 3.....	Paving 3 streets	S. R. Tighe, City Engr.
Indiana.....	Crawfordsville.....	Sept. 3, 10 a.m.....	Improving highway	B. V. Engle, County Aud.
Alabama.....	Birmingham.....	Sept. 3.....	Constrn. wood pavements, cost \$50,000.	W. G. Kirkpatrick, City Engr.
New York.....	Mount Vernon.....	Sept. 3, 5 p.m.....	Repaving South Third Ave.....	City Clerk.
New Jersey.....	Linden.....	Sept. 3.....	Constrn. sidewalks and crosswalks	J. L. Baur, Twnshp. Engr.
Pennsylvania.....	Chester.....	Sept. 4.....	Resetting curbing and sidewalk.....	J. L. Connors, Chrmn. Comm.
Indiana.....	Lafayette.....	Sept. 4, 10 a.m.....	Constrn. gravel roads	G. W. Baxter, Aud.
New York.....	Brooklyn.....	Sept. 4, 11 a.m.....	Imp. number streets	A. E. Steers, Boro. Pres.
Illinois.....	Rockford.....	Sept. 4, 2 p.m.....	Constrn. 27,000 yds. brick pavement	W. W. Bennett, Pres. B. L. I.
New York.....	New York.....	Sept. 4, 2 p.m.....	Constrn. wood block asph. & granite pave.	Geo. McAneny, Boro. Pres.
Pennsylvania.....	Clifton Heights.....	Sept. 4.....	Reset. 1,000 ft. sidewalk, curb & gutter.	H. L. Sharkey, Boro. Clerk.
Ohio.....	Toledo.....	Sept. 4, 10 a.m.....	Constrn. gravel and stone roads	C. J. Sanzenbacher, Co. Aud.
Nebraska.....	Beatrice.....	Sept. 4, 9 p.m.....	Constrn. sidewalks.....	Super. Architect, Wash., D. C.
Indiana.....	Shelbyville.....	Sept. 4.....	Constrn. gravel roads	F. W. Fogel, Co. Aud.
Indiana.....	Decatur.....	Sept. 4.....	Constrn. macadam road	H. S. Michand, Co. Aud.
Indiana.....	Crown Point.....	Sept. 4, noon.....	Constrn. several gravel roads	Boards of Comrs.
Ohio.....	Fremont.....	Sept. 4, noon.....	Constrn. curbing crosswalks, &c.....	R. R. Williams, Clerk.
Missouri.....	Cartersville.....	Sept. 5, 5 p.m.....	Constrn. curbs, sidewalks and drainage...	F. B. Newton, City Engr.
Tennessee.....	Knoxville.....	Sept. 5, noon.....	Constrn. 14,000 sq. yds. pave, drainage, &c.	D. G. Leaky, Recorder.
Indiana.....	Marion.....	Sept. 5.....	Constrn. road	E. H. Kimball, Co. Aud.
New York.....	New York.....	Sept. 5, 11 a.m.....	Constrn. sidewalks and pav. with granite.	M. E. Connolly, Boro. Pres.
Indiana.....	Fort Wayne.....	Sept. 5, 7:30 p.m.....	Paving a number of streets.....	F. T. Benoy, Ch. Bd. Pub. W.
Ohio.....	Newton Falls.....	Sept. 5, 1 p.m.....	Constrn. 5 miles macadam road	J. B. Bard, Township Clerk.
So. Dakota.....	Oacoma.....	Sept. 5, noon.....	Grading number roads	F. C. Leggett, Co. Clerk.
Ohio.....	Springfield.....	Sept. 5, noon.....	Constrn. 4,410 sq. yds. paving.....	Dir. Pub. Serv.
New York.....	New Rochelle.....	Sept. 5, 8 p.m.....	Constrn. concrete curbs, gutters & walks.	Bd. Pub. Wks.
Indiana.....	Indianapolis.....	Sept. 6.....	Constrn. stone road	H. T. Patton, Co. Aud.
Kentucky.....	Louisville.....	Sept. 6.....	Constrn. number alleys	Bd. Pub. Works.
Mississippi.....	Meridian.....	Sept. 6, 8 p.m.....	Constrn. 83,000 yds. pavement	R. T. Myers, City Engr.
Indiana.....	Brazil.....	Sept. 6, 11:30 a.m.....	Constrn. macadamized road	E. A. Stagg, Co. Aud.
Virginia.....	Richmond.....	Sept. 6, noon.....	Constrn. road at Amelia	P. St. J. Wilson, St. Hwy Comr.
Ohio.....	Youngstown.....	Sept. 6, noon.....	Constrn. pavement in 5 streets	W. H. McMillin, Clerk.
Ohio.....	Youngstown.....	Sept. 7, noon.....	Constrn. 1 mile macadam	G. M. Montgomery, Engr.
Ohio.....	Dayton.....	Sept. 7, noon.....	Constrn. walk, shelter house, &c., in park.	Franklin Rice, Pres.
Indiana.....	Richmond.....	Sept. 7, 11 a.m.....	Constrn. gravel roads	L. S. Bowman, Co. Aud.
New York.....	New Castle.....	Sept. 7, 11 a.m.....	Constrn. 4 miles road	Town Clerk.
Wisconsin.....	Marion.....	Sept. 8.....	Constrn. 15,000 sq. yds. pavement.....	E. A. Scott, City Engr.
Ohio.....	Janesville.....	Sept. 9.....	Constrn. 23,000 yds. macadam.....	J. P. Hammarlund, City Clk.
New York.....	Albany.....	Sept. 9, 1 p.m.....	Constrn. 87 routes of State highways.....	C. Gordon Reel, Supt. Hways.
Ohio.....	East Youngstown.....	Sept. 9.....	Constrn. brick pavement	P. J. Carney, Vil. Clerk.
Alabama.....	Marion.....	Sept. 9.....	Constrn. 4 miles gravel road	W. S. Kellar, St. Hwy Engr.
W. Virginia.....	Huntington.....	Sept. 9, 1:30 p.m.....	Imp. and paving number streets	A. E. Maupin, City Engr.
Iowa.....	Waterloo.....	Sept. 9, 7:30 p.m.....	Constrn. 5,300 yds. asphalt.....	R. L. Degon, City Clerk.
Ohio.....	Ottawa.....	Sept. 10, noon.....	Constrn. stone roads	J. E. Roese, Co. Aud.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
New Jersey	Vineland	Sept. 12	Constrn. 7,700 lin. ft. bit. macadam	C. W. Marshall, Clerk.
Louisiana	Shreveport	Sept. 12	Constrn. hard surface permanent rdwy, 5 miles	J. T. Bullen Co., Engr.
South Carolina	Columbia	Sept. 14, noon	Maintain roads	County Supervisors.
Ohio	Hamilton	Sept. 14, 10 a.m.	Constrn. gravel road in Oxford Twp.	W. W. Crawford, Co. Aud.
Illinois	Mattoon	Sept. 15	Constrn. 6,000 sq. yds. brick paving	E. T. Guthrie, Pres. B. L. I.
New Jersey	Delair	Sept. 19, 8 p.m.	Constrn. paving &c. about pumping plant.	C. H. Greer, Chrmn. Com.
W. Virginia	Huntington	Sept. 19, 1.30 p.m.	Paving McCoy road	A. B. Maupin, City Engr.
Ohio	Newton Falls	Sept. 22	Constrn. macadam on 3 roads	J. B. Beard, Township Clerk.
Ohio	Toledo	Sept. 24, 10 a.m.	Constrn. macadam road	C. J. Sanzenbacher, Co. Aud.
Illinois	Mattoon	Oct. 1	Constrn. 10,000 yds. brick paving	E. T. Guthrie, Pres. B. L. I.

SEWERAGE

So. Dakota	Redfield	Aug. 31, noon	Constrn. 2,400 ft. 18 and 20-in. sewer	H. T. Patch, City Aud.
Ohio	Alliance	Aug. 31, noon	Constrn. number sewers	D. M. Armstrong, Dir. Pub. S.
Texas	Clarksville	Sept. 1 (about)	Constrn. sewers, cost \$4,500	J. R. Webb, City Clerk; Nagle & Peterson, Muskogee, Engrs.
Pennsylvania	Oakmont	Sept. 2, 7.30 p.m.	Constrn. 900 ft. 15 to 36-in. sewer	Sewer Committee.
Texas	Bartlett	Sept. 2	Constrn. sewers and disposal plant	Bartlett Sewer Co.
N. Dakota	Williston	Sept. 3, 8 p.m.	Constrn. 1,700 ft. 6 and 10-in. sewers	N. B. Ludowese, Aud.
Wisconsin	Hudson	Sept. 3, 8 p.m.	Constrn. sewers	A. Carras, City Clerk.
Illinois	Joliet	Sept. 3, 10 a.m.	Constrn. sewer	W. Welch, Clerk B. L. I.
Rhode Island	Woonsocket	Sept. 3	Constrn. 1,900 ft. 8-in. sanitary sewer	F. E. Holden, Chrmn. Comrs.
Illinois	St. Charles	Sept. 3	Constrn. 14 m. sewers, disposal plant, &c.	G. N. Lamb, City Engr.
New York	Niagara Falls	Sept. 3, 7.30 p.m.	Constrn. sewers	Thos. H. Hogan, City Clerk.
New Jersey	Elizabeth	Sept. 3, 8 p.m.	Constrn. sewer	City Council.
Connecticut	Willimantic	Sept. 3, 8 p.m.	Constrn. 1,500 ft. 6 & 8-in. clay pipe	D. P. Dunn, Mayor.
Ohio	E. Youngstown	Sept. 3	Constrn. sewer on Wilson ave	City Council.
New York	Binghamton	Sept. 4, 4 p.m.	Constrn. vit. pipe sewer	F. M. Hopkins, Clerk.
Ohio	Cleveland	Sept. 4, noon	Constrn. sewers in 2 streets	W. Springborn, Dir. Pub. Ser.
Wisconsin	Waupun	Sept. 4, 10 a.m.	Constrn. disposal plant for hospital &c.	Bd. of Control, Madison.
New York	Long Island City	Sept. 5, 11 a.m.	Constrn. number of sewers	M. E. Connolly, Boro. Pres.
Iowa	Toledo	Sept. 5	Constrn. 31,000 ft. sanitary sewers	J. N. Lichty, City Clerk.
Ohio	Springfield	Sept. 5, noon	Constrn. reinforced concrete sewer	Dir. Pub. Serv.
W. Virginia	Rowlesburg	Sept. 5	Constrn. sanitary sewers	Geo. Hays, Recorder.
Ohio	Youngstown	Sept. 6, noon	Constrn. sewers in several streets	W. H. McMillin, Clerk.
Ohio	Marion	Sept. 8	Constrn. 3,000 ft. 8 and 12-in. pipe sewer	E. A. Scott, City Engr.
Oregon	Eugene	Sept. 9, 8 p.m.	Constrn. sewerage system	R. S. Bryson, City Recorder.
New Jersey	South River	Sept. 9	Constrn. sewage tank and pumping sta.	C. Anderson, Boro. Clk.
Ohio	Salem	Sept. 9, noon	Constrn. sanitary sewer	D. H. Rummell, Dir. Pub. Ser.
New Jersey	Newark	Sept. 10, 2 p.m.	Constrn. Sec. 16 Passaic Valley sewer	Sewerage Comrs.
Iowa	Tipton	Sept. 16	Constrn. 10 miles 8 to 15-in. sewer	City Clerk.
Ohio	Piqua	Sept. 17	Constrn. 4,750 ft. sanitary sewer	A. W. Burton, Dir. Pub. Serv.
So. Carolina	Blackville	Sept. 17	Con. 14,000 ft. pipe sewer & disposal plant.	City Clerk.
Louisiana	New Orleans	Sept. 19	Con. piping & auxiliaries for power house.	F. S. Shields, Sec.
So. Carolina	Blackville	Sept. 20	Constrn. sewer system	W. A. Gyles, City Clerk.
Illinois	Mattoon	Oct. 1	Constrn. 4,500 ft. 14 to 22-in. clay pipe	E. T. Guthrie, Pres. B. L. I.

WATER SUPPLY

Ohio	Wyoming	Aug. 31, noon	Constrn. well with air lift, &c.	W. A. Clark, Sec.
Minnesota	Cuyuna	Aug. 31	Constrn. water works	G. Anderson, Village Clerk.
Oregon	Clatskanie	Sept. 1 (about)	Constrn. water works, cost \$30,000	J. M. Blackford, City Recorder.
So. Dakota	Lake Andes	Sept. 2	Constrn. extension of water system	E. O. Lanam, City Aud.
New York	Niagara Falls	Sept. 2, 7.30 p.m.	Constrn. c.-l. mains	W. D. Robbins, City Engr.
Texas	Dallas	Sept. 2	Furn. 2,000 water meters	City Commissioners.
Maryland	Westernport	Sept. 2, noon	Constrn. reservoir, mains, &c.	Water Commission.
Iowa	Sioux City	Sept. 3	Enlarging reservoir &c. tank.	G. B. Healy, Commissioner;
Pennsylvania	Bristol	Sept. 3	Constrn. water tank and tower	D. H. Maury, Engr., Chicago.
Kansas	Medicine Lodge	Sept. 3	Constrn. 18,000 ft. 36-in. concrete conduit and pumping plant	J. R. Grundy, Chrmn. Com.
Louisiana	Kentwood	Sept. 3, noon	Constrn. reservoir	Samuel Griffin, Mayor.
N. Dakota	Williston	Sept. 3, 8 p.m.	Constrn. 20,000 ft. c.-l. water pipe, &c.	A. B. Lea, Mayor.
Ohio	Oakley	Sept. 3, noon	Constrn. 6-in. water pipe	N. B. Ludowese, Aud.
Ohio	Columbus	Sept. 4, noon	Furn. valves &c. services	Oscar Kosche, Clerk.
Ohio	Akron	Sept. 4, noon	Furn. 2,800 tons c.-l. pipe, valves, &c.	S. A. Kinnear, Dir. Pub. Ser.
Michigan	Saginaw	Sept. 5	Constrn. addition to water works	R. M. Pillmore, Dir. P. B. S.
W. Virginia	Rowlesburg	Sept. 6	Constrn. 2 ml. mains, pumps, reservoir, &c.	Water Board.
N. Carolina	Winston	Sept. 6, 8 p.m.	Constrn. 11,000 ft. c.-l. water mains, &c.	Geo. Hays, Recorder.
Dist. Colum.	Washington	Sept. 9	Furn. motor pumping engine and hose wagon; also motor aerial hook & ladder truck; installing new boiler in engine.	R. I. Dalton, Mayor.
Ohio	Ravena	Sept. 9	Furn. cast iron pipe, hydrants, valves, &c.	Commissioners.
Illinois	Olney	Sept. 9	Constrn. extension to water works	W. H. Lintoon, Dir. Pub. Ser.
Alabama	Dothan	Sept. 10	Constrn. reservoir and light plant	B. A. Lain, City Clerk.
New York	New York	Sept. 10, 11 a.m.	Con. superstructure for siphon chambers	B. R. Pilcher.
New Jersey	Newark	Sept. 10	Furn. 50 tons c.-l. pipe and specials	Bd. Water Supply.
Virginia	Norfolk	Sept. 10	Constrn. pit & pump house at Navy Yard.	Passaic Val. Sewerage Comrs.
So. Carolina	St. George	Sept. 10	Constrn. water works	Lt. Col. C. L. McCawley.
Minnesota	Cloquet	Sept. 10	Constrn. water works and sewer system.	Commissioners.
Indiana	South Bend	Sept. 18	Constrn. 6,000,000 gal. reinforced concrete reservoir	W. E. Hawley, City Engr.
New Jersey	Camden	Sept. 19, 8 p.m.	Constrn. 5,000,000 gal. pumping plant	O. C. Bastin, Pres. Bd. P. W.
So. Carolina	Blackville	Sept. 20	Constrn. water works	H. M. Herbert, Chief Eng.
Virginia	Portsmouth	Sept. 24, noon	Dredging canal	W. A. Gyles, City Clerk.
				W. G. Parker, Pr. Water Comrs.

LIGHTING AND POWER

Canada	Edmonton	Aug. 31	Instal. lighting fix. in Parliament Bldg.	John Stocks, Dep. Min. P. W.
Pennsylvania	Lebanon	Aug. 31, 11 a.m.	Building fire engine house	D. M. Sharp, City Clerk.
Connecticut	Frankfort	Aug. 31	Altering piping in power house	J. B. McDermott, Ch. Engr.
Pennsylvania	Pittsburgh	Sept. 2, 10 a.m.	Furn. bronze lamps for bridge	J. G. Armstrong, Dir. P. W.
New York	Schenectady	Sept. 3, noon	Furn. fixtures for court house	B. A. Farrell, Clerk.
New Jersey	Jersey City	Sept. 5, 3 p.m.	Furn. current for lighting county road	W. O'Meara, Co. Clerk.
Dist. Col.	Washington	Sept. 9, 2 p.m.	Furn. motor pumping engine and hose wagon, also hook and ladder truck	T. H. Rudolph, Comr.
Georgia	Macon	Sept. 10	Lighting city for 5 years	City Council.
Canada	Regina, Sask.	Sept. 14	Furn. steam turbine unit, switchb'd, &c.	A. W. Pool, City Clerk.
Florida	St. Petersburg	Sept. 19, noon	Supply, city with gas	W. F. Devine, City Clk.
Louisiana	New Orleans	Sept. 19	Constrn. piping & auxil. at power plant	F. S. Shields, Secretary.

FIRE EQUIPMENT

Ohio	Marion	Aug. 31, noon	Constrn. central fire station	M. A. Mickley, Dir. Pub. Safety.
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BRIDGES

New York	Trenton	Aug. 31, 11 a.m.	Constrn. 2 concrete bridges	E. W. Griffith, Town Clerk.
Canada	Calgary, Alta.	Aug. 31 (ext. date)	Constrn. 3 reinforced concrete bridges	J. M. Miller, City Clk.
Illinois	Crescent City	Aug. 31, 2 p.m.	Constrn. reinforced concrete bridge	D. J. Gibson, Town Clerk.
Pennsylvania	Pittsburg	Sept. 2, 10 a.m.	Constrn. reinforced concrete bridge	J. D. Armstrong, Dir. P. W.
Mississippi	Sardis	Sept. 2	Constrn. steel and concrete bridge	R. D. Draper, Chancery Clerk.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Indiana.....	Angola.....	Sept. 2.....	Constrn. 4 concrete bridges	J. H. Shaughness, Co. Aud.
Illinois.....	Okawville.....	Sept. 2, 11 a.m.	Constrn. 3 concrete bridges	A. R. Ochs, Town Clerk.
Missouri.....	St. Louis.....	Sept. 3, noon.....	Constrn. section of municipal bridge	Bd. of L. I.
Ohio.....	Troy.....	Sept. 3, 10 a.m.	Constrn. bridge and flooring 2 bridges	M. T. Staley, Co. Aud.
So. Dakota.....	De Smet.....	Sept. 3.....	Constrn. reinforced concrete bridges	W. M. Look, Co. Aud.
Kansas.....	Concordia.....	Sept. 3.....	Constrn. 5 bridges	R. A. Short, Co. Clerk.
Louisiana.....	Tallulah.....	Sept. 4.....	Constrn. 3 bridges	W. H. Harvey, Sec'y.
Colorado.....	Denver.....	Sept. 5, 11 p.m.	Constrn. 2 bridges	S. B. Bradley, Pr. Bd. P. Wks.
New Jersey.....	Jersey City.....	Sept. 5, 3 p.m.	Repairing bridge over canal	W. O'Mara, Clerk Freeholders.
Virginia.....	Richmond.....	Sept. 6, noon.....	Constrn. bridge at Independence	P. St. J. Wilson, St. Hwy Comr.
Ohio.....	Akron.....	Sept. 6.....	Rebuilding sub-structure	C. L. Bower, Clerk.
Illinois.....	Quincy.....	Sept. 7, 2 p.m.	Constrn. steel and concrete bridge	J. W. Jacobs, Town Clerk.
Ohio.....	Hamilton.....	Sept. 7, 10 a.m.	Constrn. bridge	W. W. Crawford, Co. Aud.
Pennsylvania.....	York.....	Sept. 9, 10 a.m.	Constrn. number bridges	W. H. Strine, Co. Clerk.
New Jersey.....	Newark.....	Sept. 9, 3 p.m.	Constrn. extensions of stone bridges	Jos. Owen, Co. Engr.
New York.....	Greenburg.....	Sept. 10, 2.30 p.m.	Paving & waterproofing bridge.....	Town Clerk.
Ohio.....	Toledo.....	Sept. 10, 10 a.m.	Repairing bridge	C. J. Sanzenbacher, Co. Aud.
Nebraska.....	Nelson.....	Sept. 11.....	Constrn. and repairing bridges for year.....	County Clerk.
Ohio.....	Cincinnati.....	Sept. 13, noon.....	Con. concrete bridge in Sycamore Twnshp.	County Commissioners.
Indiana.....	Terre Haute.....	Sept. 15.....	Constrn. reinforced concrete bridge	N. Wallace, Co. Aud.
Ohio.....	Toledo.....	Sept. 17, 10 a.m.	Constrn. miscellaneous bridge work	C. J. Sanzenbacher.
Minnesota.....	Blue Earth.....	Sept. 25, 1 p.m.	Constrn. 2 concrete bridges	J. L. Herring, Co. Aud.
MISCELLANEOUS				
Colorado.....	Denver.....	Aug. 31, 11 a.m.	Constrn. retaining walls, storm sewers, water pipes, sidewalks, &c	S. B. Bradley, Pres. B. P. W.
Mass.....	Lowell.....	Sept. 2, 10 a.m.	Constrn. comfort station	J. E. O'Donnell, Mayor.
So. Dakota.....	Sioux Falls.....	Sept. 2, 9 a.m.	Constrn. retaining walls	W. C. Leyse, City Aud.
Pennsylvania.....	Pittsburgh.....	Sept. 2.....	Constrn. concrete retaining wall	J. G. Armstrong, Dir. D. P. W.
New Jersey.....	Perth Amboy.....	Sept. 3, 8.30 p.m.	Constrn. bulkheads	G. M. Adair, St. Comr.
Washington.....	Tacoma.....	Sept. 4, 5 p.m.	Clearing land and filling 400,000 cu. yds.	P. F. Clark, City Clerk.
New Jersey.....	Montclair.....	Sept. 6, 2.30 p.m.	Imp. grounds about school	State Bd. Education.
Florida.....	Bradentown.....	Oct. 7.....	Constrn. court house and jail	R. H. Rorsch, Clerk.
Pennsylvania.....	Scranton.....	Sept. 9, 7.30 p.m.	Collecting ashes and refuse from schools.	E. D. Fellows, Sec.
Indiana.....	Indianapolis.....	Sept. 10, 10 a.m.	Rebuilding brick barn at Marion Co. asy.	W. T. Patten, Auditor.
Indiana.....	Indianapolis.....	Sept. 10, 10 a.m.	Furn. 10 or 12 ton road roller	W. D. Patten, Co. Aud.
New York.....	Albany.....	Sept. 10.....	Con. barge canal terms. at Schenectady.....	W. D. Peck, Supt. Pub. Wks.
Maryland.....	Baltimore.....	Sept. 11.....	Constrn. concrete retaining wall	Harbor Board.
New York.....	New York.....	Sept. 12, noon.....	Constrn. Sec. 1, Route 11B, Fourth Ave.	Pub. Serv. Comm.
Illinois.....	Chicago.....	Sept. 18, 11 a.m.	Disposing of garbage for 5 years.....	L. E. McGann, Comr.

STREET IMPROVEMENTS

Decatur, Ala.—Commissioner's Court of this County will advertise for bids within next few days for construction of part of new State Highway through County.

Alhambra, Cal.—Ordinances providing for improvement of various streets are being considered.

Los Angeles, Cal.—Paving of Stephenson ave. will shortly be commenced.

Los Angeles, Cal.—Petitions have been asked for improvement to various streets.

Los Angeles, Cal.—City Council has passed by unanimous vote ordinance to improve streets at ends of Broadway tunnel.

Los Gatos, Cal.—Bond issue for street improvements will be submitted to vote of people.

Pasadena, Cal.—Ordinance has been read first time for widening Sierra Bonita ave. and extending it to San Pasqual st.

San Francisco, Cal.—Improvement of several streets is recommended to Supervisors by Central Mission and Hayes Valley Improvement Club, which states that it intends to park and beautify Oak st., between Franklin and Gough. Board of Supervisors is requested to order new pavement for it, and also for Page st., from Franklin to Gough, Octavia, from Fell to Grove, Fell from Van Ness ave. to Franklin, and Franklin from Market to McAllister.

San Francisco, Cal.—The Mission Promotion Association has decided to request Board of Supervisors to widen Onondaga ave. by diminishing width of sidewalks on each side of driveway from Mission st. to San Jose ave.

Santa Ana, Cal.—County Highway Commission has made its report to Board of Supervisors upon which Orange County will be asked to vote \$1,270,000 bonds with which to build 107.22 miles of good roads. Paved portion of roads is to be 16 ft. wide, with provision for widening to 20. Asphalt macadam is contemplated on all roads, except between Olive and the Riverside line, where surfacing will be done where needed.

Santa Rosa, Cal.—Sonoma County Development Board, composed of representatives of all chambers of commerce granges, have taken initial steps toward bonding Sonoma County for \$1,000,000 for building of roads.

Bristol, Conn.—Council has ordered two streets improved.

Hartford, Conn.—City Engineer F. H. Oldershaw has reported that cost of extending asphalt permanent paving to North Stanley st. would be \$7,973 of which amount Connecticut company

would have to pay \$2,051, property owners \$2,670, and city \$3,252. Board has voted to recommend that contract for extending pavement be awarded to Southern New England Paving Company of Hartford at \$2.35 a sq. yd., with excavation extra.

New Britain, Conn.—It has been voted to have engineer secure estimate of cost of grading Allen st., from Farmington ave. to McClintock rd.

West Hartford, Conn.—Widening and grading of East st. has been authorized.

Miami, Fla.—County Commissioners have decided to call election for purpose of bonding county in sum of \$300,000 for road purposes.

Pensacola, Fla.—City Council has voted to adopt recommendation of Board of Bond Trustees changing plan of paving through Georgia square, and instead to pave around the square.

St. Andrews, Fla.—Issue of \$30,000 improvement bonds have been sold by city, and the money will be available at an early date to be used in streets and other improvements.

St. Petersburg, Fla.—Citizens will draw up petition asking that election be called for December 1, when voters of County will have privilege of saying whether or not they want to issue \$350,000 worth of bonds to be used in hard-surfacing the county. It is wish of voters, and some of commissioners that bond money be so voted that it will give St. Petersburg and district in which it is located \$210,000 of entire fund.

Atlanta, Ga.—Mayor Courtland Winn has appointed committee to consider proposed bond issue of \$2,000,000 for streets.

Chicago, Ill.—Widening of Halsted st. is being considered.

Indianapolis, Ind.—Joseph L. Hogue, City Street Commissioner, expects to begin shortly work of macadamizing Crawfordville road from Indiana ave. to Emrichsville bridge over White River, for which City Council has appropriated \$10,000.

Michigan City, Ind.—Engineer Mills has submitted estimated cost of proposed pavements in Seventh, Eighth and Ninth sts., from Huron st. to Willard ave., as follows: Seventh, \$6,000; Eighth, \$6,400, and Ninth, \$8,500.

Muncie, Ind.—Extension of Powers st. from Council to Liberty has been ordered by Board of Public Works.

Louisville, Ky.—Board of Public Works has ordered construction of sidewalks on large number of streets.

Leesville, La.—City Council has passed ordinance ordering laying of concrete sidewalks and curbing on eighteen of principal streets, for which bids will be advertised for work as soon as grades

are established. When completed Leesville will have five miles of additional paved walks.

Lynn, Mass.—Orders authorizing street department to lay granolithic sidewalks on both sides of Moulton st., covering an aggregate frontage of about 1,600 ft. have been adopted.

Grand Rapids, Mich.—Council Committee on Streets has reported favorably on proposed opening of Eastern ave. from Flat st. to East Leonard.

Duluth, Minn.—Paving of Third st. and Fifth st. is being urged.

Baltimore, Md.—State of Maryland has appropriated sum of \$150,000 for improvement of York road from city limits to Pennsylvania line.

Rock Hill, Md.—New 15-mile road will be constructed between Rock Hill, Chestertown and Fairlee.

Raleigh, Miss.—Board of Supervisors of Smith County has advertised for \$40,000 worth of bonds for good roads in District No. 1. Bonds amounting to \$12,000 will be sold for District No. 3 at next meeting.

Bozeman, Mont.—Ordinance has been passed for paving S. Central ave. with bitulithic.

Kearney, Neb.—Long stretch of walk will be built on Ave. F from Sixteenth to Twenty-second sts. and another on Beeman corner lot on Twenty-seventh and Ave. C.

Elizabeth, N. J.—The J. D. Everitt Co., of 9 Wall st., New York, was highest bidder for \$145,000 worth of county road bonds advertised for sale at County Collector Leavitt's office.

Jersey City, N. J.—Improvement of Wayne st. is being considered, also various other streets.

Perth Amboy, N. J.—Ordinances have been adopted for improvements to various streets.

Perth Amboy, N. J.—Motions have been adopted instructing Street Commissioner to advertise for bids for grading Lee st., Homan ave., Hanson ave., Laurie st., Cornell st and Groom st.

Pitman, N. J.—Surface of macadam road on Broadway, at Pitman, will be torn up, scraped and repacked by new process.

Akron, N. Y.—Contract has been made by Village Board and General Crushed Stone Company for paving of two blocks on Main st., between Clinton and Buffalo sts., with new paving material now being manufactured in this village, known as amasite. Pavement is to be put in at cost and expense to be paid as follows: One-third by village and one-third by property owners on each side of street. Price is not to exceed \$3 a running foot.

Albany, N. Y.—Plans for 80 contracts for new State highways, approximating 400 miles, and costing in neighborhood of \$5,000,000, have been approved by State Highway Commission.

Batavia, N. Y.—Mayor Wiard and Board of Aldermen have voted to pave State st. north from Main st. this fall and to do considerable amount of paving in residential section next year.

Binghamton, N. Y.—Appropriation for construction of County highway from Harpersville to Center Village will be considered.

Illon, N. Y.—Resolution has been approved for paving of Otsego st. with bitulithic.

Lestershire, N. Y.—Paving of Broad st. is being discussed.

Lockport, N. Y.—Election will be held for purpose of voting of bond issue not to exceed \$50,000,000 for constructing and improving State and County highways.

Mamaroneck, N. Y.—Village has sold \$59,000 worth of bonds for highway improvements and sewers.

Niagara Falls, N. Y.—City Engineer Parkhurst has reported that estimated cost of paving West Quay st. from Buffalo to Erie ave. to be \$3,302.38.

Niagara Falls, N. Y.—Willow ave., between Main and Whirlpool sts., will be paved with bitulithic.

Niagara Falls, N. Y.—Paving of Highland Court has been decided on, and Board of Public Works has been authorized to call for bids for paving of North st., from Grove to Center aves.

Nyack, N. Y.—Board of Trustees has decided to build road from Clarkstown line to connect with road at Highland ave.

Poughkeepsie, N. Y.—Superintendent Harding has been authorized to advertise for bids for constructing sidewalks on Fairview ave., Brookside, Du Boise ave., Catherine st., South Water st., Mill st., Howard st. and Bayeaux st., and curb and gutter on Mansion st. from Smith st. to Winnikee ave.

Schenectady, N. Y.—Ordinances have been passed providing for improvement of various streets.

Cincinnati, O.—Clerk Reischardt has been directed to readvertise for bids for \$1,000 improvement of Reading rd. by widening same.

Lisbon, O.—County Commissioners have awarded to Hayden, Miller & Co., of Cleveland, issue of bonds for paving of East Liverpool and Fredericks-town rd. The bid was \$17,145.90.

Lisbon, O.—Petition has been presented to County Commissioners asking for improvement of North Market st., in Lisbon, from Jerome st. to city limits, distance of 1,700 ft. Estimated cost of improvement will be \$9,000 for brick pavement 26 ft. wide and when completed will connect with paving now being done on Salem rd.

Port Clinton, O.—Residents of Erie Township have voted on issuing of \$10,000 bonds for improvement of roads, from Lacarne to Camp Perry. Proposition carried 121 to 7.

Youngstown, O.—Resolutions are being considered for widening of Hazel st. and paving of Jackson st.

Oklahoma City, Okla.—Resolution has been passed for paving of portion of Francis ave.

Erie, Pa.—Ordinances have been passed for paving of various streets.

Erie, Pa.—Bids for curbing of Twenty-fourth st. offered by Mayer Bros. and J. & M. Doyle being even, no award was made and bids will again be advertised.

Pittsburgh, Pa.—Paving of Broadway is being urged.

Pittsboro, Pa.—It has been decided to open Corliss st. from West Carsen st. to Chartiers ave. Bids will shortly be advertised for this work.

Westerly, R. I.—Appropriation of \$5,000 has been voted for construction of highway, really an extension of Atlantic ave.

Woonsocket, R. I.—City Council Committee on Highways has voted to recommend passage of resolution asking Board of Aldermen to relay that part of South Main st. between easterly arch bridge and Charles H. Stebbins block, in accordance with plan of City Engineer.

Charleston, S. C.—Bids for 10,000 sq. yds. of vitrified brick paving have been called for by City Engineer, this amount being total paving scheduled for year by Street Committee. Bricks will be laid on block in St. Philip st., between Calhoun and Vanderhorst sts., and in extending vitrified brick paving of King st. up to Columbus.

Chattanooga, Tenn.—Bond issue of \$45,000 has been sold for improvements to various streets.

Lockout Mountain, Tenn.—Bond issue of \$25,000 has been voted for purpose of building and improving streets.

Cameron, Tex.—Commissioners' Court of Milam County has ordered election

for 17th of September in Justice's Precinct Nos. 5 and 8, comprising Commissioners' Precinct No. 4, for purpose of voting on proposed bond issue of \$200,000 in said territory for road purposes.

Devine, Tex.—At meeting of people of this precinct it was decided to call election to vote \$40,000 good roads bonds.

El Paso, Tex.—Petition for improvement of Dallas st. from intersection with south line of alley in block 79, Franklin Heights, to its intersection with north line of Arizona st., and Arizona st. from its intersection with east line of Golden Hill Terrace to its intersection with west line of Hutton st., has been presented to City Council.

Fort Worth, Tex.—Petition is being considered asking for paving of portion of Murray st.

Marshall, Tex.—Steps will be taken shortly by City Commissioners toward paving square and certain streets, for which \$28,000 was recently voted.

Morgantown, W. Va.—Marion County Court has passed order which provides for submitting of \$400,000 bond issue to voters of Marion County at special election to be held in September. Bonds are for purpose of paving and otherwise improving county roads.

Norfolk, Va.—About \$8,000 will be expended in Princess Anne for road improvements.

Richmond, Va.—Sum of \$6,500 has been appropriated for improving with bituminous macadam Cary st. road from boulevard to new corporation line.

Richmond, Va.—Board has appropriated \$2,760 for paving with asphalt block roadbed of Lombardy st. from Monument ave. to Park ave., and Committee on Streets has been authorized to transfer \$3,500 from fund for streets generally to paving with asphalt block of Lombardy st., from Bond to Grace st.

Spokane, Wash.—City Council has adopted plans and specifications for five street improvements. Plans and specifications adopted are as follows: Grading Howard from Wabash to Garland, \$5,500; grading Fairview ave. from Belt to the Northwest Blvd., \$2,500; paving alley between Front ave. and Main from Division to Howard sts., \$2,200; paving upper roadway of Washington st. from Havermale ave. to north end of Great Northern viaduct, \$1,600; paving alley between Stevens and Howard from Front to alley between Front and Main, \$450. Improvements postponed for one week for action, are as follows: Paving alley between Main and Riverside from Division to Browne sts., \$1,900; paving alley between Second ave. and the Northern Pacific right of way from Washington to Monroe, \$6,900; paving alley between Bernard and Washington from Maine ave. to Riverside, \$450.

La Crosse, Wis.—La Crescent highway is to be repaired at cost of \$5,000.

Milwaukee, Wis.—Bids have been opened by Department of Public Works for bituminous pavements on five streets. Two of jobs will be readvertised bids being rejected as too high. Other three will be let if contractors can give sufficient guaranty that they can complete work within time limit. Jobs to be let are Galena st., from Fourth to Seventh st. Badger Construction Co., \$1.59 a yd.; Cleveland ave., from Eighth to Ninth aves.; Badger Construction Co., \$1.62 a yd.; Forest Home, Harrison and Twenty-eighth aves., Badger Construction Co., \$1.62 a yd. The following will be readvertised: Paving alley in block 70, Fourth Ward, Badger Construction Co., \$1.83 a yd.; Folsom pl. and Locust st., from Downer ave. to Humboldt, White Construction Co., \$1.75 a yd.

CONTRACTS AWARDED.

Alhambra, Cal.—To J. W. Michaelson for improvement of Marengo ave., between Main st. and Mission road, at 22 cts. per lin. ft. for curb, 8½ cts. per sq. ft. for sidewalk, 12 cts. per sq. ft. for gutter, and \$3,066 for lighting system complete.

Los Angeles, Cal.—To B. C. Nichols for improving Canal st., Wilmington, for \$29,120, and to Fairchild-Gilmore Wilton Co., for improving Shatto pl., at \$7,756.

Los Angeles, Cal.—By Board of Public Works for following improvements: Canal st. from Third to Front, and other streets (Wilmington)—to B. C. Nichols at 18.7 cts. a sq. ft. for asphalt paving; 38 cts. a lin. ft. for cement curb; 60 cts. a sq. ft. for granite block gutter; 13 cts. a sq. ft. for sidewalk; \$8,500 for storm drains and appurtenances; aggregate, \$29,120.86. De Longpre ave., from Western to Wilton—awarded to George E. Spain at \$1.45 a lin. ft. for grading and graveling; 55 cts. a sq. ft. for granite block gutter; 16 cts. a sq. ft. for ce-

ment gutter; 33 cts. a sq. ft. for vitrified block gutter; 11.5 cts. a sq. ft. for sidewalk; aggregate, \$3,932.93. Fernwood ave., from Western to Wilton—awarded to Walter Overell at 10.75 cts. a sq. ft. for sidewalk; aggregate, \$1,313.97. Lexington ave., from first alley east of Western to 100 ft. easterly—awarded to O. L. Stevens at 40 cts. a lin. ft. for cement curb and 11½ cts. a sq. ft. for sidewalk; aggregate, \$415.75. Shatto place, from Fifth to Wilshire—awarded to Fairchild-Gilmore-Wilton Company at 16.7 cts. a sq. ft. for asphalt paving; 30 cts. a lin. ft. for cement curb; 15 cts. a sq. ft. for cement gutter; aggregate, \$7,756.65. Occidental Boulevard, from First to Sixth, and other streets—awarded to Fairchild-Gilmore-Wilton Company at 17 cts. a sq. ft. for asphalt paving; 33 cts. a lin. ft. for cement curb; 16 cts. a square ft. for cement gutter; 45 cts. a sq. ft. for granite block gutter; \$200 for culverts; \$2,200 for storm drains; aggregate \$33,367.12.

Pasadena, Cal.—To T. L. Syvertson for work on Marengo ave., for \$1,292.85.

Santa Ana, Cal.—To Oscar Ford at \$9,400 for construction of Sevierville Canyon rd. and construction of bridge.

Bridgeport, Conn.—By Paving and Sewer Commission for wooden block pavement and laying of same on Fairfield ave., as follows: American Creosoting Co., of Newark, N. J., was given contract for supplying wooden blocks and other material will be furnished by Loftus, Dugan & Gilbert Co., of New Bedford, Mass. Bids received were as follows: Furnishing blocks and laying same, at so much a square yard, with a five-years' guarantee and without, and furnishing blocks at so much a thousand yards, with and without guarantee. Fairfield ave.—Barber Asphalt Co., \$1.93 and \$1.96, \$36.30 and \$34.74; American Creosoting Co., \$1.78 and \$1.78, \$32.96 and \$32.96; Warren Bros. Co., \$1.75 and \$1.75, \$30 and \$30; Wyckoff Pile and Creosoting Co., \$1.95 and \$1.97, \$36.48 and \$36; United States Wood Preserving Co., \$1.89 and \$1.89, \$35.86 and \$35.86. Amount of wood blocks called for on this contract was 63,000 sq. yds. Elm st., 1,166 yards, the same—American Creosoting Co., \$1.78 and \$1.78, \$32.96 and \$32.96; United States Wood Block Preserving Co., \$1.89 and \$1.89, \$35 and \$35; Barber Asphalt Co., \$1.96 and \$1.96, \$36.30 and \$35.74; Warren Bros. Co., \$1.75 and \$1.75; Wyckoff Pipe and Creosoting Co., \$1.97 and \$1.95, \$36.48 and \$36.11. For laying the blocks and furnishing all other materials. Fairfield ave.—Silliman & Godfrey Co., \$1.46 without guarantee, .59 running ft. for headers; Neal, Barber & Underwood, \$1.47 with guarantee, \$1.41 without, headers .69; The Burns Co., \$1.59 with guarantee, \$1.54 without, .50 for headers; Warren Bros. Co., \$1.46 and \$1.46, headers .69; Loftus, Dargan & Gilbert, \$1.23 with guarantee and \$1.21 without. Elm st.—Burns Co., \$1.39 and \$1.39; The Silliman & Godfrey Co., \$1.46 without guarantee; Warren Bros. Co., \$1.46 and \$1.46, conditional upon the Fairfield ave. work being awarded this firm; Loftus, Dargan & Gilbert, \$1.19 and \$1.18; Neal, Barker & Underwood, \$1.47 with and \$1.41 without.

Hartford, Conn.—Board has voted to recommend that contract for extending Andrew's st. and repairing bridge be awarded to Union Realty Co. for \$1,136.

Hartford, Conn.—By Highway Commissioners for improvement of roads in Manchester, Litchfield and Winchester as follows: To Sternberg & Cadwell Construction Co. for 7,300 ft. of macadam at \$1.75 a lin. ft.; \$2.75 per lin. ft. for macadam-telford; \$1 per ft. for rubble drain, and \$1 per sq. yd. for cobble gutters; \$7 per cu. yd. for concrete, \$5.50 for masonry and \$4.50 for dry rubble. To B. D. Pierce Jr. Co. for 14,464 ft. of graded road in Litchfield, \$18.450; telford base, 90c. per lin. ft.; rubble drain, \$1; cobble gutter, 70c. per yd.; concrete wall, \$8 a cu. yd.; masonry, \$7; dry rubble, \$6. To Torrington Construction Co. for 12,425 ft. of gravel macadam, \$1.99 per lin. ft. for gravel macadam, \$2.49 for gravel and telford, 75c. for rubble drain, \$5 per cu. yd. for concrete wall, \$4.50 for masonry, and \$4 for dry rubble wall.

Middleboro, Conn.—By Highway Commissioner James H. MacDonald as follows: Middleboro—Section 1, 4,400 ft. grading and hardening, to Ahern Bros., Willimantic, \$5,460; section 2, 3,860 ft. gravel road to H. S. Osborn, Redding Ridge, \$1.35 per lin. ft.; section 3, 1,900 ft. grading and hardening, E. G. Pardee, Bethany, \$2,187; section 4, 1,168 ft. gravel road, E. G. Pardee, \$1,000. Woodbury—1,750 ft. grading and hardening, Curran Corporation, Middletown, \$1,600.

Newark, Del.—By Council for macadamizing Cleveland ave. to Stewart & Donohue, of Wilmington, for \$4,168.86.

Atlanta, Ga.—T. D. Meador to pave Marietta st. with wood block, his bid being \$2.75 per sq. yd.

Jacksonville, Ill.—To John Cherry, of Jacksonville, for paving with brick E. Court st. for \$8,993.

Springfield, Ill.—For paving three blocks in Lewis st. to Richard Egan, of Springfield, for \$7,300.

Angola, Ind.—By City Council of Angola for Hocking brick pavement at public square and four streets leading to square to H. J. Janney, Muncie, Ind., at \$25,000.

Elkhart, Ind.—By City Council as follows: For Metropolitan brick pavement on Cassopolis st., on Park and Third sts., and also on Elkhart st., to the Northern Construction Co., 214 S. Main st., at \$4,825 \$8,520.15 and \$16,942, respectively.

Fort Wayne, Ind.—To Brooks Construction Company for walks on Cass st. from First to Sixth for 65½ cts. a lin. ft., and on Clay st., from Columbia to Washington for 79½ cts. a lin. ft. Bids of C. E. Moellering Company for walks on Williams st. were only ones submitted, and as they were above estimate board rejected them. Same company bid even with Grosjean Company for walks on McClellan st. at 67 cts., but contract went to Grosjean. Contract for sewer on Warsaw st. was given to Fred Fueling at \$1.29 a ft.

Muncie, Ind.—For construction of paved roadway in Seymour st., yesterday to William Birch at his bid of \$1.68½ per sq. yd., by Board of Works. Improvement will extend from Walnut to High st.

South Bend, Ind.—Contracts for number of improvements have been awarded by Board of Public Works. Contracts with name of contractors and amount of bids accepted follows: Pavement of first alley north of North Shore drive, Hoban & Roach, \$1,391.50; sewer, Garfield court, DePaepe & Cousins, \$397.90; grade, curb and walk, Lincoln st., DePaepe & Cousins, \$445.85; grade, curb and walk, West Division st., T. C. Barnes, \$177.96, and sewer, Olive st. and Michigan ave., Henry DeVos, \$6,455.20.

Atlantic, Ia.—By City Council to Kimballton Construction Co., of this city, for about two and a half miles of paving. Paving is to be of one course 6-inch concrete with bituminous top dressing, and is to cost \$1.29 per sq. yd.

Clinton, Ia.—To Thomas Carey & Son for paving Second ave. at \$4,002, and Third st. at \$1,448.

Creston, Ia.—For grading right of way to new interurban railway between here and Macksburg to J. F. Buis, E. P. Olson and T. L. Campbell, grading contractors, of St. Joseph.

Oelwein, Ia.—By City Council for 26,000 yds. paving to William Horrabin, of Iowa City, at \$1.68 per sq. yd.

Perry, Ia.—For paving mile of Otley ave. with concrete, bituminous dressing, to W. G. Birdsall at \$1.04 per sq. yd.

Augusta, Me.—Bids have been opened at office of State Highway Commissioner for trunk line contract D, which is continuation of contract B, upon which Shawmut Construction Co., is now working. Bids were as follows: M. M. McDonough Co., Swampscot, Mass., concrete, \$47,557; bituminous, \$36,757; American Truck Co., Kittery, concrete, \$66,168; bituminous, \$62,875; John W. Gulliver, Portland, concrete, \$53,953; bituminous, \$51,000; Forgione & Romano and R. D. Shanahan, Portland; concrete, \$65,505.50; bituminous, \$50,385.50; Maine Trap Rock & Construction Co., Portland, concrete, \$51,707.56; Davis, stonecrete, \$50,633.40; Hassam Paving Co., Worcester, Mass., concrete, \$55,263.73. Contract has not yet been awarded by department but will probably go to M. M. McDonough Co., as lowest bidder. It has not been decided whether construction is to be of bituminous or concrete.

Bangor, Me.—For excavating and paving 1,400 sq. yds. on State st., which has been designated by City Council as State rd., John Grady & Son. Following is bid in full: Excavating, lump sum, 1,400 sq. rods, \$400; 3½-in. wood block paving, per sq. yd., \$3.59; granite sidewalks, per sq. yd., \$1.48; granite paved gutters, per sq. yd., \$1.74; marginal curb, per lin. ft., .65; dressed curbing, per lin. ft., .51; 3-in. block paving, per sq. yd., \$3.49.

York Beach, Me.—To Michael McDonough of Swampscot, Mass., for construction of 8 miles of roadway from Goch Beach, Me., to Wells.

Detroit, Mich.—By Department of Public Works for paving and repaving streets: Durand st., from Seyburn ave. to Van Dyke ave., 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: Amherst curb—Julius Porath, \$3,941.39; T. E. Currie, \$3,935.62; F. Porath & Son, \$3,985.28; W. W. Hatch & Sons Co., \$3,-

880.34. W. W. Hatch & Sons Co. is lowest bidder; average cost per sq. yd., including inspection, etc., \$2,459. Hamilton ave., from 1,000 ft. south of Jefferson ave. to Jefferson ave., 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: Julius Porath, \$6,961.39; F. Porath & Son, \$7,003.33; T. E. Currie, \$6,842.45; W. W. Hatch & Sons Co., \$6,905.57. T. E. Currie is the lowest bidder; average cost per sq. yd., including inspection, etc., \$2,343. Leicester Court, from John R. st. to Oakland ave., 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: J. W. Hanley, \$12,562.86; Julius Porath, \$11,950.63; T. E. Currie, \$12,184.93; F. Porath & Son, \$12,219.15. Julius Porath is lowest bidder; average cost per sq. yd., including inspection, etc., \$2.40. Manchester ave., from Wildemere ave. to Dexter Boulevard, 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: Julius Porath, \$6,457.12; T. E. Currie, \$6,662.36; F. Porath & Son, \$6,530.58. Julius Porath is lowest bidder; average cost per sq. yd., including inspection, etc., \$2.43. Pulaski ave., from W. Jefferson ave. to M. C. R. R., 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: Julius Porath, \$8,496.44; T. E. Currie, \$8,687.50; F. Porath & Son, \$8,674.04. Julius Porath is lowest bidder; average cost per sq. yd., including inspection, etc., \$2.428. Theodore st., from Mitchell ave. to McDougall ave., 26 ft. wide, with cedar blocks on concrete foundation and Berea, Medina or any other curbstone that may be bid upon and ordered: J. W. Hanley, \$2,120.27; Julius Porath, \$2,104.22; F. Porath & Son, \$2,128.10. Julius Porath is lowest bidder; average cost per sq. yd., including inspection, etc., \$2.666. West Jefferson ave. (re-paving), from Twelfth st. to Traver st., 23 and 34 ft. wide, with granite blocks on concrete foundation and Medina curbstone: Julius Porath, \$14,274.25; T. E. Currie, \$14,105.98; F. Porath & Son, \$13,817.18. F. Porath & Son is lowest bidder; average cost per sq. yd., including inspection, etc., (granite blocks to be furnished by city), \$4.36. The Department of Public Works has entered into contract with lowest bidder in each case.

Grand Rapids, Mich.—McDermott & Cooper at \$2,173.02, was lowest bidder on paving of Second st.

Duluth, Minn.—To George R. King for grading and graveling Forty-third ave. west from Grand ave. to Eighth st., at \$2,625.

Duluth, Minn.—By Bd. Pub. Wks., for paving a portion of Parkside ave. to P. McDonnell, of Duluth, for about \$28,000.

Duluth, Minn.—To J. W. Preston, for paving Twenty-first ave. W., at \$28,000.

Mankato, Minn.—To North Star Concrete Co., for creosoted block paving on Mulberry and Plum sts., from Front to Broad, at \$2.37.

Greenwood, Miss.—By City Council for 25,000 sq. yds. creosoted wood block paving to Wood Block Co., of New Orleans, La., at \$2.69 per sq. yd.

Chillicothe, Mo.—For paving of First st. from Vine to Elm, and Elm st. from First to the Wabash Railroad, and alley between Locust and Elm sts., from Clay to Calhoun, and alley between Washington and Locust sts., from Webster st. to Calhoun st., to Clyde A. Stewart, estimate cost of paving two streets and two alleys being \$7,468.01.

Elsberry, Mo.—For building 8½ miles of gravel road to St. Clair Engineering Co., of East St. Louis, Ill.

St. Louis, Mo.—By Board Public Improvements for paving as follows: Wood block, Benton St., to Skrainka Constr. Co., \$30,721; with brick, De Soto st., to William H. Redemeyer, \$10,107, and with brick, Beethoven st., to Davies Construction Co., for \$10,336.

Kalispell, Mont.—The City Council is stated to have awarded contract for paving Main st. to Inland Dollarway Co., of Spokane, Wash., for \$17,000.

Whitefish, Mont.—To B. B. Gilliland for macadamizing Second st. and Central ave. for \$6,872.

Ft. Sumner, N. M.—To A. W. Wright for laying of concrete block sidewalks entire length of Main st.

Camden, N. J.—At meeting of Street Committee of City Council, William Penn Corson was successful in being awarded paving contracts that will amount to \$40,000. In some instances Mr. Corson was only one-half a cent a yard below next lowest bidder, Aaron Ward. Specifications call for Belgian block pavements on 4-in. concrete foundation. Bids

were as follows: Locust st. from Kaighn ave. to Mechanic st.: Aaron Ward, Eastern blocks, \$2.61 a sq. yd.; Pennsylvania blocks, \$2.58 a sq. yd.; W. Penn Corson, Eastern blocks, \$2.79 a sq. yd.; Pennsylvania blocks, \$2.52½ a sq. yd.; Sweeten & Son, Eastern, blocks, \$2.68 a sq. yd. Mt. Vernon st. from Haddon to Mt. Ephraim ave.: Aaron Ward, Eastern blocks, \$2.65 a sq. yd.; Pennsylvania blocks, \$2.57 a sq. yd.; W. Penn Corson, Eastern blocks, \$2.65 a sq. yd.; Pennsylvania blocks, \$2.52½ a sq. yd.; Sweeten & Son, Eastern, blocks, \$2.68 a sq. yd. Division st. from Second to Front st.: Aaron Ward, Eastern blocks, \$2.75 a sq. yd.; Pennsylvania blocks, \$2.69 a sq. yd.; W. Penn Corson, Eastern blocks, \$2.79 a sq. yd.; Pennsylvania blocks, \$2.52½ a sq. yd.; Sweeten & Son, Eastern blocks, \$2.68 a sq. yd.

Huckensack, N. J.—For improving 2.76 miles of road in Teaneck Township by County Road Comm., Bd. Chosen Freeholders to Geo. M. Brewster for \$100,368.

Hampton, N. J.—By Hunterdon County Board of Freeholders to M. Irving Demarest, of Sewaren, to construct macadam road through Hampton borough to Warren County line at Imlayville, to cost \$9,975.45. It is connecting link between Flemington and Easton.

Lyons Farms, N. J.—For paving Elizabeth av., Lyons Farms, to Weldon Contracting Co. for \$5,577.85. Bids received were as follows: Weldon Contracting Co., \$5,577.85; Bamberger & Chapman \$6,688.90; C. H. Winans Co., \$5,813.80.

Morristown, N. J.—By Board of Freeholders for two State Aid roads as follows: The Denville-Boonton road in Boonton and Mountain Lakes, distance of 10,508 ft., to Oak Ridge Company for \$44,234.72; Landing and Mt. Arlington road, a distance of 13,377 ft., to Salmon Brothers for \$52,888.55. Contract for County road known as Butler-Boonton road, distance of 5,550 ft., to Cotter & Berger for \$8,488.50.

Perth Amboy, N. J.—For grading of Johnstone st. to Graham & McKeon at 42 cts. per cu. yd.

Oaklyn, N. Y.—By Oaklyn Borough Council to Augustus Stutzer, of Colingswood, contract for building combination cement curbs and gutters on Clinton and Newton aves., at 45 cts. a sq. yd., and for macadamizing Clinton ave., at \$1 a sq. yd.

Rome, N. Y.—At meeting of Board of Public Works, bids were opened for paving. Warren Brothers Co., of Boston were only bidders and their bids for bitulithic were accepted and contracts awarded as follows: Kossuth st., \$13,381.04; Huntington st., \$4,053.05; Elm st., \$5,756.04; Steuben st., \$1,170.

Syracuse, N. Y.—By Board of Control & Supply to F. J. Baker for paving East Adams st., between Comstock & Ostrom aves.

Watervliet, N. Y.—By City Clerk for paving Twenty-fifth st. to Dollard & Heenan, of Albany, for \$40,518.

Fargo, N. Dak.—Jas. Kennedy, of Fargo, for paving 8,000 yds. on Ninth st. S. with bitulithic at \$1.90 per sq. yd.

Ashtabula, O.—Bids were opened by Board Public Service Aug. 12 for grading, draining, curbing and constructing concrete foundation and paving 5,636 sq. yds. with shale block, asphalt fill Foster, Fitch and Henry sts., and the contract has been awarded to T. P. Fitzgerald of Ashtabula.

Cincinnati, O.—Henkel & Sullivan are stated to have secured contract for paving with asphalt and wood block Linn st., for \$60,370. The contract for paving with asphalt Clark st. is reported awarded to Wm. Scully, Jr., & Bro., for \$11,883.

Cleveland, O.—The Commissioners of Cuyahoga County, Cleveland, let contract for grading and paving with brick 2,756 ft. of road in Bedford township, Cuyahoga County, to Peters & Palmer, Marietta, O., at \$13,866.50. James R. Marker, State Highway Commissioner, Columbus, O.

Columbus, O.—By State Highway Department for grading and paving with brick for medium traffic the No. 2 Fisher road, State Highway "C", pet No. 373 in Bedford to Peters & Palmer, Marietta, O., at \$13,866.50. Length, 2,759 ft. or 0.52 mile.

Dayton, O.—Contracts for paving a number of streets and establishment of roadways and building combined curbs and gutters on others have been awarded by Board of Control. On paving jobs awards were made as follows: McDonough st., to J. O. Shoup, Nelsonville

block, \$7,807.35; Magnolia st., J. E. Conley & Co., Trimble block, \$2,026.20; Morton ave. from Burns to Oak, J. O. Shoup & Co., Nelsonville block, \$8,221.35; Morton, Brown to Burns, bids rejected because lowest was above engineer's estimate; Mead from Perry to levee, J. E. Conley & Co., Trimble, \$4,556.10, this being the second low bid, David Beard, the low bidder, having made an error on his proposal; alley north of Edgewood, Al Wroe & Sons, cement, \$1,215.50; Wayne ave. paving, to J. E. Conley & Co., Harris block and stone curb, \$12,316.80, this being higher than the bid of David Beard, whose low bid of \$12,303.25 was upon the construction of a cement curb; June st., from Second to Fifth, David Beard, Harris block, \$10,255.75; Eagle from Richard to Fifth, J. O. Shoup & Co., Nelsonville block, \$9,029.20; Miegs from Second to Monument, Athens block, Yount & Jackson, \$5,251.50; Hollencamp from Jefferson to Warren, Hocking block, W. J. Kernan & Co., \$2,556.15; alley north of Cottage Grove, A. J. Kammer, cement, \$1,660.50. For grading, graveling, sidewalks, &c., Newport, to David Onkst & Son, \$1,982.50; alley west of Warren, to L. G. Blessing, \$370.85; Laural, to David Onkst & Co., \$4,389.70; Wildwood, to Hecker & Kirchner, \$12,381.50; Dennison, to John Maher, \$1,832.60; Neibert, to John Maher, \$6,117.56; Gillespie, to Boyd & Cook, \$2,155; Henry, to Hecker & Kirchner, \$540; Delaware, to A. J. Kammer, \$493.4; Clifton drive, to John Maher, \$5,770.25; Easton, to A. Wroe & Sons, \$2,195.30; Kirkham, to Hecker & Kirchner, \$825.15. J. I. Geiger was only bidder on Daller st. and on Valley st., but his bids were irregular and were therefore rejected.

Hamilton, O.—By Board of Control for paving with sheet asphalt Walnut st., to Andrews Asphalt Paving Co., of Hamilton, for \$30,454.

Hamilton, O.—Under bids received at Columbus by State Highway Department Garver Construction & Contracting Co. of this city was awarded contract for about mile of concrete construction road work on Circleville-Washington road, Pickaway County. Estimated cost was \$12,694 and contract secured for \$11,961. Total contracts for road work awarded by department amounted to \$75,000 but about \$55,000 worth of work on which bids were solicited went begging and work will now have to be readvertised.

Salem, O.—By commissioners for paving and improving East Liverpool and Fredericktown road to R. Burrows of East Liverpool.

Youngstown, O.—By city as follows: Grading Garland ave. to James Cumisky, \$1,097.20. Grading Wellington ave. to A. Serafino, \$889.25. Grading Harvard st. to R. C. Shook, \$585.60. Grading Adams st. to Gallagher & Code, \$261.90. Grading Fairmount ave. to Miller Bros., \$14,653. Grading and sewerage Otis st. to James Cumisky, \$342.80. Paving Short st. to A. Serafino, \$926.50.

Durant, Okla.—By City Council for six blocks of asphalt paving on North Third ave. to Cleveland-Trinidad Paving Co., of Cleveland, Ohio. Successful bid was \$17,397.23.

Astoria, Or.—To Warren Construction Company to improve two blocks on Jerome ave., from Fifteenth to Seventeenth sts. with bitulithic.

Oregon City, Ore.—By City Council for surfacing streets in Oregon City to Montague & O'Reilly Co. for \$19,693.

Carbondale, Pa.—For grading of Powderly rd. at 79c. per cu. ft., cutting and filling, to John Booth, also \$2.50 for rock work.

Erie, Pa.—By Council for grading, curbing and paving from south line of Eighth to Twelfth st., to Mayer Bros., whose bid for California asphalt was \$1.14 the cu. yd., and for Bermuda and Trinidad mixed at \$1.20 the cu. yd. Bids for curbing of Twenty-fourth st., offered by Mayer Bros. and J. & M. Doyle being even, no award was made and bids will again be advertised.

Erie, Pa.—For grading, curbing and paving and drainage of Ash st., from Fifteenth to Eighteenth st., to Mayer Brothers. Bessemer block to be used and call for expenditure of \$3,362.40. A contract for repaving of Sassafras st. from Twelfth st. to railroad tracks, with Bessemer blocks, to John McCormick and Son for \$267.50.

Harrisburg, Pa.—By Park Commissioners for building of roadway through new tract acquired from directors, was awarded to lowest bidder, E. E. Fiese, of Steelton.

Pittston, Pa.—To McConville & Fitzpatrick, 135 S. Main st., Pittston, for paving S. Main st. for \$23,993; Plank st., \$14,129.50; N. Main st., \$5,029.25, all with Mack block, and for Plank st. culvert

for \$3,500, and Chapel st. culvert, \$4,000.

Shamokin, Pa.—By Coal Township Commissioners for building new road near Excelsior to former Sheriff William Taby at \$15,051.

Wilkesbarre, Pa.—To John E. James for paving with brick Hickory st. at \$2.06 per sq. yd. and Washington st. at \$2.12 per sq. yd.; also, for paving with asphalt Hancock st. to Warner Quinlan Company at \$2.09 per sq. yd.

Knoxville, Tenn.—To John Douglass to grade Jackson ave., from Broadway to L. & N. freight depot.

Springfield, Tenn.—By commissioners of Robertson County Pike Commission for grading, ditching and macadamizing 109 miles of road to Freeman & Robbins.

Palestine, Tex.—To Smith Bros. of Crockett and Dan Lakoe of this city by Commissioners' Court for building of twenty miles of sand clay roads. Price will be approximately \$50,000. Work will be rushed as quick as possible.

Sherman, Tex.—Larkin Construction Company, which has contract for good roads in Sherman precinct has let contract for concrete work to C. H. Foley of this city for \$35,000.

Waco, Tex.—For paving 1½ miles on Fifth st. to Texas Bitulithic Co., of Fort Worth.

Salt Lake City, Utah.—One of the lowest bids on curb and gutter work has been submitted to City Commission by Moran on extension No. 21 on north bench. The contract will in all probability, be awarded shortly. His bid on excavation work is only 38 cts. per cu. yd., as against 60 cts. under former bids of year ago. He bids 76 cts. on gutter work, and only 8 cts. on sidewalks, which is lowest price on walks ever given city. Tabulated bids as computed by engineering department follow: Preliminary estimate based on last year's prices, \$95,521.37; P. J. Moran, \$62,110.65; Smith Bros., \$70,791.78; G. A. Heman, \$74,550.88; Jas. Kennedy Construction Company, \$81,323.10; McKay & Reed, \$88,703.22; Gilkerson Construction Company, \$91,389.94; J. W. Mellen, \$92,346.08.

Everett, Wash.—To F. K. Pfolliott to pave Oakes ave., his bid being \$40,560. Paving is to be laid from Hewitt ave. to Twenty-second st. Surfacing material named by contract is asphalt. Other bidders were Atlas Construction Company, \$40,560, and Barber Asphalt Company, \$45,200.

Spokane, Wash.—For 25 miles of grading between Monroe and Eugene, Ore., to Flagg & Standefer Company of Portland.

Spokane, Wash.—By City Council to pave Sumner ave., Grand Blvd. to Cliff ave., to Inland Empire Hassam Paving Company for Spokane bituminous pavement No. 1 at \$23,221.

Lawrence, Wis.—To Alex Cavil to grade 6,000 ft. of new road and for building large concrete culvert and two smaller ones in town of Hobart.

Milwaukee, Wis.—By Board of Public Works for paving Twenty-second ave. and California st. with bituminous macadam to D. M. Sneddon Co., at \$1.20 sq. yd.; Erie st., with stone blocks, to John M. Donahue at \$3.32 a sq. yd.; east half of Third st., with stone blocks, to Hase & Weiher at \$2.84; for three blocks of resurfacing on Wells st. to Badger Construction Co. at \$1.43, and resurfacing Farwell ave. to White Construction Co. at \$1.50 a sq. yd.

Superior, Wis.—By County Board work of improving Barton road to E. J. Carroll on bid of \$27,331.70. A. J. McDonald, whose bid was \$24,377.16, failed to provide necessary bond and consequently lost out.

SEWERAGE

Los Angeles, Cal.—Board of Public Works has instructed City Engineer to alter and install new catch basins on Workman st. and Ave. 28.

Manchester, Conn.—Manchester sanitary district is planning extension of sewage system from Bissell block, North Main street, to corner of North Main and Oakland sts.; also on Main st., from corner of Hollister st. south to Middle turnpike, and from corner of Main and Hollister sts. east on Hollister st.

Jackson, Ga.—Petition is being considered for election for voting on bonds for sewerage.

Burlington, Ia.—Resolutions asking Engineer to advertise for bids on Aetna st. sewer and branches and making provisions therefor have been adopted.

Clinton, Ia.—Plans will be prepared by City Engineer for sewer system in District No. 9.

Quincy, Ill.—Resolutions have been adopted for construction of three sewers as follows: One on Adams, between

Sixth and Eighth sts.; one on Twelfth, between Ohio and Jefferson sts.; Thirteenth, between Ohio and Jefferson sts.; Washington, between Twelfth and Thirteenth sts., and Ohio, between Thirteenth and Fourteenth sts. and third one on Madison, between Eighth and Tenth sts.

Urbana, Ill.—Installation of sewerage system has been authorized.

Princeton, Ind.—To solve problem of sanitary sewerage disposal, city has let contract for erection of septic tank. Sewer Engineers wanted from \$20,000 to \$25,000 for construction of tank buildings, which is to be of concrete, but after securing its own plans city has arranged for building of tank at cost of less than \$2,000.

Bowling Green, Ky.—Ordinance providing that vote shall be taken at November election on proposition to issue bonds in sum of \$350,000 for local sewerage system has passed City Council on its second and final reading. Application of W. P. Bullock, Kansas City engineer, for work of drawing plans and specifications for sewerage system has been referred to Sewerage Committee.

Union City, Mich.—After fifteen years' agitation, it looks as if Union City was to have municipal system of sanitary sewerage, for city officials have several surveys at work establishing sewer grades and making estimate for construction of sewerage system to cover entire town.

Duluth, Minn.—City Engineer John Wilson estimates that proposed Park Point sanitary sewer will cost \$21,500. Sewer will be nearly three miles long, running from Thirty-eighth st. to outlet in canal.

Anoka, Minn.—Council is contemplating better sewer system.

Butte, Mont.—Committee has decided to recommend construction of Dublin gulch sewer.

Hammon, N. J.—Construction of sewerage plant is being discussed.

Roselle Park, N. J.—At meeting of the Borough Council resolution was adopted authorizing issuing of bonds amounting to \$6,200 for proposed outlet sewer.

Trenton, N. J.—Ordinance has been passed to authorize construction of sewer No. 552, in Ardmore, Greenwood, Cuyler, Farragut and Gladstone aves.

Mamaroneck, N. Y.—Village has sold \$59,000 worth of bonds for sewers and highway improvements.

Oneida, N. Y.—Construction of Sewer on East Railroad st. is planned.

Salem, O.—For third time bids for construction of sewer on Wilson st. will have to be advertised, as this time there were but two bids and these were both above estimate. Estimate for constructing of this sewer is placed at \$1,631.25 and lowest bid received was \$1,864.95. This was received from John Gunn. Other bid from Manspeaker and Gray was for \$1,945.90.

Seranton, Pa.—Following orders from State Department of Health, Poor Board has decided to improve sewage system at Hillside Home, and authorized Home committee to employ sanitary engineer to prepare plans for system modeled after that now in use at Norristown Insane Hospital.

Dallas, Tex.—City Secretary has been instructed to advertise for bids for laying of a 6-in. sanitary sewer in alley between Eighth and Church sts., from Jefferson to Fleming aves., distance of approximately 500 feet.

Mart, Tex.—City Council has granted franchise to Mart Sewer Company, corporation composed entirely of local business men, to build sewer system for city. The O'Neal Engineering Company of Dallas has been employed as supervising and consulting engineer. Plant will cost about \$25,000.

Teague, Tex.—Contractors have made proposition to City Council for installation of sewer system in Teague.

Temple, Tex.—City Council has taken formal steps looking toward immediate acquisition of municipally-owned sewer system. Special report from committee entrusted with investigation of matter recommended purchase of plant of Temple Sanitary Sewer Co., after same has been inspected, appraised and report submitted by competent engineer. Arrangements will be made at once to carry movement into effect.

Spokane, Wash.—Construction of First Ward sub-trunk sewer in Nosler's addition will probably soon be started.

Green Bay, Wis.—W. W. Reed, formerly city engineer here, has been commissioned by officials of Kewaunee to make plans of complete sewer system for that city.

CONTRACTS AWARDED.

Los Angeles, Cal.—By Board of Public Works for following improvements: Stephenson ave., from Spence st. southerly, and portion of Spence st.; awarded to W. N. Hendricks at \$315 for sewer complete. Sutherland st., from Sunset to Galveston, and other streets; awarded to W. N. Hendricks at \$2,070 for sewer complete. Twenty-seventh st., from Arlington to Fifth ave.; awarded to John Sutalo at \$3,263 for sewer complete. Van Ness ave., from Wilshire to Sixth—Awarded to B. M. Sherer at \$1,061 for sewer complete. Fortia st., from Sunset to Scott, and other streets; awarded to B. M. Sherer at \$1,594 for sewer complete. Waterloo st., from Sunset to Marathon; awarded to W. N. Hendricks at \$640 for sewer complete. Adams st., from Eleventh to Seventh aves., and other streets; awarded to B. M. Sherer at \$1,767 for sewer complete. Avenue Sixty, from Hays to Echo; awarded to W. N. Hendricks at \$430 for sewer complete.

Hartford, Conn.—For construction of sewers on Zebulon st., Bidwell ave. and Daniel st., to A. D. Bernardino, at \$988.05.

Hartford, Conn.—By Board of Public Works, for Adams st. sewer, to John Dinallo, lowest bidder, and contract for Newton st. sewer to Bernardino Silvestri. Former job is \$1,599.75 and latter \$1,306.

Windsor, Conn.—For construction of intercepting sewer, to Hartford Paving & Construction Co., of Hartford, for about \$9,323.

Fort Wayne, Ind.—For construction of sewer on Warsaw st. to Fred Fuelling at \$1.29 pr. ft.

Burlington, Ia.—To Young & Buescher, for construction of storm sewer in South Main st.

Welser, Idaho.—To G. A. Heman, of St. Louis, Mo., for constructing sewers for \$52,722. R. Wood is City Engineer.

Flora, Ill.—By Board of Local Improvement for constructing system of sanitary sewers, to Nichols & Brown, of Kansas City, Mo.

Anthony, Kas.—To Worley & Black, Reliance Bldg., Kansas City, Mo., for engineering work in connection with \$60,000 sewer system at Anthony.

Brookline, Mass.—Bids were opened for construction of sewer and surface-water drain in Pleasant Browne sts., and surface-water drain in Buckminster road: R. L. Barrett, \$2,224.50; T. Driscoll, \$1,359.50; M. J. O'Hearn, \$1,285.50; J. Driscoll & Son Co., \$1,244.50. Contract was awarded to J. Driscoll & Son Co., lowest bidders, in accordance with its proposal.

Grand Rapids, Mich.—Ver Hey & Kloote, at \$1,752.50, was lowest bidder on sewer for Veto st.

Aurora, Minn.—By City Council, for sanitary sewers in Second Division, Aurora, to Pastoret & Lawrence Co., Duluth, Minn., at \$8,824.40.

Faribault, Minn.—For 3,983 ft. of sanitary sewer to P. J. Gallagher and John Kasper.

Camden, N. J.—William Penn Corson was lowest bidder for sewers on Ninth st., from Atlantic ave. to Mechanic st.; Sixth st., from Everett to Jackson st., and from Sixth st. to Broadway.

Perth Amboy, N. J.—For construction of sewer in West Side ave. to Liddle & Pfeiffer at following bid: \$1.70 a lin. ft. for 18-inch sewer, \$1.18 a lin. ft. for 15-inch sewer, \$25 for each manhole and \$75 for each receiving basin.

Roselle Park, N. J.—Contracts for construction of lateral sewers in Chestnut st. and Laurel ave. have been awarded to Masso & DiFabio, of Cranford by Borough Council. Cost of Chestnut st. sewer will be \$463, and for Laurel ave. sewer it will be \$346.04.

Roselle Park, N. J.—Bids have been opened by Borough Council for Chestnut st. storm sewer and for lateral sewers to be constructed in Chestnut st. and Laurel ave. Contract for construction of storm sewer was awarded to Martin and Miller, subject to approval of State Road Commissioner.

Binghamton, N. Y.—For construction of sewer in First Ward and Lestershire to Contractor Moreley.

Clinton, N. Y.—To J. William Dawes, of Clinton, to construct sanitary sewer system for Hamilton College Sewer District, near Clinton. There will be 11,000 ft. of pipe, manholes, flushtanks and disposal plant consisting of Imhoff tank and sludge drying bed. Engineer is A. M. Scripture, of Hartford, N. Y.

Dayton, O.—Boyd and Cook have been awarded bid for sanitary sewers on Springfield st., at \$3,987.50; storm sewers on McDonough and May sts., for \$892; storm sewer on Wayne ave., \$3,600; storm sewers on Eagle and Hope sts., \$790; storm sewers on parts of Fifth st., at \$1,938.10. W. C. Kershner has been awarded contract for sanitary

sewers in district No. 8 for \$7,513.50; Deal ave. storm sewer at \$1,050.50; St. Paul, Milton and Newcom sts. storm sewer, for \$773, and Emerson place storm sewer, \$494. William Hilt has been awarded contract for storm sewers on Terry and First sts. at \$7,944.10.

Youngstown, O.—By city for sewerage Glenwood ave. to Clyde Harris, \$6,191.71; sewerage Lansing ave. to Anthony A'Horo, \$897.65; sewerage Rowland and another st. to Clyde Harris, \$4,119.10.

Erie, Pa.—For construction of storm water sewer from Nineteenth st. and Chestnut to Mill Creek, to J. & M. Doyle for \$6,360.

Erie, Pa.—To F. J. Eichenlaub, for construction of section five of Mill creek intercepting sewer from Nineteenth st. to Twenty-sixth st., to cost \$6,847. For construction of sewer on Hess ave., north of Ellert and southward to Center of Ninth, and in Eighth and Seventh sts., to F. J. Diefendorf, for \$3,191.

York, Pa.—Contracts for construction of three storm water sewers have been awarded by city to General Supply and Construction Company. Sewers will be located on College ave., from Oak la. to Northern Central Railway; on Newton alley, from Water st. to Northern Central Railway, and on Cherry alley, from Princess to King sts. Bids for work have been opened at meeting of Highway Committee of City Council. Those for construction of proposed Vine st. sewer being in excess of amount of appropriation of \$3,500, it was agreed to readvertise for bids. Two bids for construction of each sewer were received. Bidders were the General Supply and Construction Company and A. B. Kraft. Bid of A. B. Kraft for construction of Princess st. sewer was: 12-in. terra cotta, 90 cts. per ft.; 18-in. terra cotta, \$1.60 per ft.; excavating rock, \$3.60 per cu. yd.; manholes, \$32; inlets, \$53. General Supply and Construction Company bid: 12-in. terra cotta, 84 cts. per ft.; 18-in. terra cotta, \$1.43 per ft.; manholes, \$29; inlets, \$54. The General Supply and Construction Company, being lowest bidder, was awarded contract. Bid of A. B. Kraft for Newton alley sewer was: 12-in. terra cotta, 90 cts. per ft.; 15-in. terra cotta, \$1.15 per ft.; excavating rock, \$3.60 per cu. yd.; manholes, \$32; inlets, \$58. General Supply and Construction Company bid: 12-in. terra cotta, 84 cts. per ft.; 15-in. terra cotta, \$1.09 per ft.; excavating rock, \$1.50 per cu. yd.; manholes, \$29; inlets, \$54. General Supply and Construction Co., being lowest bidder, was awarded contract. Amount appropriated for construction of this sewer is \$600. Bid of A. B. Kraft for College ave. sewer was: 12-in. terra cotta, 90 cts. per ft.; 18-in. terra cotta, \$1.60 per ft.; excavating rock, \$3; manholes, \$32; inlets, \$53. General Supply and Construction Company bid: 12-in. terra cotta, 84 cts. per ft.; 18-in. terra cotta, \$1.47 per ft.; excavating rock, \$2.50; manholes, \$29; inlets, \$54. General Supply and Construction Company, being lowest bidder, was awarded contract.

Montreal, Que.—For sewers as follows: To Palermo et Froscarelli, for a sewer in Melrose ave., \$4,500, also sewer in Marchmont ave., same contractor, for \$9,115; sewer in Notre Dame de Grace Ward, to Henault & Heffernan, \$199,520; to Giguere & Co., \$51,110 for sewer in Gauthier st.; Toussaint & Co., \$42,604 for sewer in Cote St. Laurent road; Bray & Bastien, \$39,000, for sewer in Cote St. Laurent road; L. Giguere & Co., \$37,397, for sewer in Just st.; Dillon & O'Sullivan, \$37,066 for sewer in Gaspe ave.; Hanault & Heffernan, \$37,040 for sewer in Hotel de Ville ave.; also E. Belanger & Co., \$36,850 in St. Adele st., \$34,350 in King Edward Boule., \$34,350 in Green-shields ave., \$34,350 on Bickerdike ave., \$22,207 in Roche st., and four other sewer contracts also go to the same firm for \$6,000, and to Bray & Bastien for sewer in Sanguinet st., at \$31,000.

Richmond, Va.—To L. E. Brown & Co. for construction of sewer in Allen ave., from Colorado ave. to Wallace st., to cost \$9,424.62.

Spokane, Wash.—By City Council for sewerage of Arthur st., Eighth ave. to Newark ave., to DeCamp & Cheatham at \$1,150, this being the lowest bid received. Estimate was \$1,172.

Ashland, Wis.—Fraser & Danforth, of St. Paul, were lowest bidders, at \$18,596, for sewer system for East End.

Janessville, Wis.—To Grey-Robinson Construction Co., Manitowoc, Wis., at \$4,504.06 for sewer at Janessville.

Janessville, Wis.—By city for constructing sewers to Grey Robinson Construction Co., of Manitowoc, for \$4,504.

Madison, Wis.—By city for constructing 36-in. vitrified pipe sewer to connect old sewerage well with new sewerage wells at Sewerage Pumping Sta-

tion, to John F. Icke, of Madison, for \$14,775.

WATER SUPPLY

Los Angeles, Cal.—Plans for improvement of San Pedro & Wilmington water system are being considered.

San Diego, Cal.—By vote of 6,955 to 1,404, San Diego voted \$2,500,000 bonds for purchase of part of Southern California Mountain Water Company's system and approved contract for purchase of remainder of company's property, including watersheds for \$1,500,000.

New Britain, Conn.—About 10,000 ft. of water mains will be constructed this season by Water Department; also 300 meters will shortly be purchased.

Washington, D. C.—Orders have been issued by Engineer Department of District Government for laying 490 ft. of 8-inch water main in Aspen st.; 315 ft. of 4-inch water main in alley between G and H st., Twelfth and Thirteenth sts. northwest, and 255 ft. of 8-inch main in Klinge road, west of Thirty-second st. northwest.

Washington, D. C.—Engineer who states that he is in position to furnish first-class references, and is now engaged in planning waterworks for certain Italian townships, advises American Consul that he is in market for iron and steel water pipes, and that he would like to receive prices and agency offers from leading American manufacturers of these products. Correspondence should be in Italian or French. No. 9411 Bureau of Manufactures.

Galesburg, Ill.—City is considering construction of 20 miles of water mains.

Blanchard, Ia.—Bonds have been voted for water works system.

Riceville, Ia.—Reservoir will be erected for city water works.

Sioux City, Ia.—Bonds in sum of \$10,000 have been voted for water works.

Belle Plain, Minn.—Plans will be prepared by Oscar Claussen Engineering Co., of St. Paul, for pumping station and water main extensions.

Maywood, Neb.—Bids have been rejected for construction of water works.

Scottsbluff, Neb.—Election will shortly be held for voting on \$38,000 bond issue for improving water works system.

Hawthorne, N. J.—Commissioners are considering installation of water system.

Perth Amboy, N. J.—Bids will be received until 4 p. m., Aug. 30, for purchase of \$25,000 water bonds. C. K. Seaman, City Treasurer.

Sewell, N. J.—Sewell Water Co. will petition Township Committee to extend its franchise from 20 to 50 years.

Newburgh, N. Y.—Issue of \$166,200 City of Newburgh water refunding and improvement bonds authorized recently by vote of City Council has been awarded to Harris, Forbes & Co., of New York.

Rochester, N. Y.—On September 10 City Comptroller will sell \$115,000 worth of waterworks notes and also another waterworks note issue of \$50,000.

Tappan, N. Y.—Establishment of water district is being discussed.

Roswell, N. M.—Contract will be let within short while for drilling of a 1,500-foot well near Elkins, this State, for water. A tract of 42,000 acres is to be developed there if sufficient supply of water can be found.

Dayton, O.—Election will be held for voting on bond issue of \$900,000 for improving and extending waterworks system.

Salem, O.—Ordinance has been passed for appropriation of \$5,000 out of waterworks fund for purchase of air compressor.

Youngstown, O.—Local authorities have been notified that filter plant addition plans have been formally approved by State Board of Health at meeting of Board in Columbus. Improvements will cost in neighborhood of \$125,000 and bids for work will be received this month.

Rock Hill, S. C.—City Council by unanimous voted adopted recommendation of Public Works Commission that city adopt route over J. M. Cherry property to Catawba River for purpose of securing permanent water supply, for which purpose \$50,000 in bonds were voted recently.

Greenville, Tenn.—Proper methods of obtaining adequate water supply are being considered.

Brownsville, Tex.—Erection of stand-pipe is being considered.

Fort Worth, Tex.—City has voted to purchase \$12,000 worth of water pipe for use on South Side.

Kaufman, Tex.—Residents have voted in favor of issuing bonds for money to be used in improving city water works system.

Salt Lake City, Utah.—Expenditure of about \$60,000 on construction of 20-in. feed pipe from Big Cottonwood conduit to lower water circuit of city to relieve drain on central system and to handle part of increased supply to be gained by big reservoir scheme at head of canyon, is to be recommended to commission by Superintendent C. F. Barrett of Water Department.

Wheeling, W. Va.—Installation of filtration plant to cost about \$450,000 is being considered.

Almira, Wash.—Construction of municipal water works system will probably be voted on.

Hillyard, Wash.—According to decision of Hillyard City Council all wooden water pipes in city will be replaced and several miles of new mains will be installed and only metal pipe used.

La Crosse, Wis.—Bids are being advertised for water mains by Board of Public Works. About 18,369 ft. of pipe will be required.

CONTRACTS AWARDED.

Middletown, Del.—By Water and Light Commission to sink 10-in. artesian well, 500 ft. deep, to produce 150 gallons of water a minute, to Contractor Shannahan, of Easton, Md., for \$1,800.

Augusta, Ga.—Water Works Committee of the City Council has awarded two contracts that aggregate \$49,364, contracts being for about five miles of water mains and for placing 150,000 yards of earth on bank of new basin. Contract for reservoir was let to Lamar & Glover, the price being 202-3 cents per yard. Next price was 24 cents. Total amount for reservoir will be about \$31,000. Contract for water mains was let to B. F. Roberts, of Macon, Ga. His bid was for \$18,364, being less than \$100 under the next highest bidder. Other bidders on mains were local contractors. Mains to be put down are six, eight and ten inch mains and will be in new part of city.

Weiser, Idaho.—For water works extension to Bird-Mendenhall Construction Co., of Salt Lake City, Utah, for \$63,984. R. Wood is City Engineer.

Gilman, Ia.—For construction of water works from plans of J. Q. Wickham, of Ames, to Des Moines Bridge & Iron Co., of Des Moines, for \$13,056.

Renwick, Ia.—For construction of water works to C. W. Roland Co., of Des Moines, to include elevated tank of 30,000 gals. capacity.

Grand Rapids, Mich.—To Fitzpatrick & Mulvihill, for water mains and hydrants for South Front ave. improvement, by Board of Public Works.

Grand Rapids, Mich.—Lowest bid for water mains on First st. and Front ave. was received from Ver Hey & Kloote at \$3,549.45.

Royal Oak, Mich.—For furnishing material and constructing water works complete with exception of pumping plant, to T. C. Brooks & Sons Co., of Jackson, Mich., for \$23,956.

Cuyuna, Minn.—By Village Council for water works system and water tank to Pastoret & Lawrence.

Minot, N. D.—For extension of water works to include 16,304 ft. 6 and 8-in. water mains, 36 hydrants and 44 gates, to J. M. Carroll & Son, of Grand Forks, for about \$22,520. Other bidders: Corn & Wilcox, Billings, Mont., \$27,724; Haggart Construction Co., Fargo, N. D., \$27,958; Hawley & Green, Aberdeen, S. D., \$29,162; Tanner Bros., Webster, S. D., \$28,132; George W. Kemper, Minot, \$26,398; C. H. Parrott, Fargo, \$28,288; L. W. Schuth, Fargo, \$27,221; Des Moines Bridge & Iron Works, Des Moines, Ia., \$29,584.72; Ideal Plumbing and Heating Co., Milwaukee, Wis., \$29,069.97; W. D. Lovell, Minneapolis, Minn., \$28,737.58.

Rochester, N. Y.—For construction of conduit to connect Hemlock and Canadice Lakes to Bavally & Ingersoll.

Akron, O.—For construction of new reservoir just outside city limits for storage of water from main reservoir above Kent, Akron Storage & Supply Company, contract price being \$113,963.

Portsmouth, O.—By Board of Public Service for water works improvements, from plans of Witmer & Brown, Chapin block, Buffalo, N. Y., pumping station, chimney, pump well and intake, to Nicola Building Co., Farmers' Bank Building, Pittsburgh, Pa., \$74,135; reservoir, to Curtis & Shumway, of Portsmouth, \$59,540; filtration plant, to N. Y. Continental Jewell Filtration Co., Mills Building, New York, N. Y., \$120,278, and pumping machinery to John H. McGowan Co., Cincinnati, O., \$81,450.

Hamilton, Ont.—To Canada Fdry. Co. for two 750-revolution electric pumps at \$6,000 and to Canadian General Electric Co. for electric apparatus to be used in connection with same to cost \$10,475.

Waco, Tex.—Water Commissioners have accepted bid submitted by Allison-Chalmers Company of Milwaukee, Wis., for high-service and centrifugal pumps. The high-duty pumps cost \$33,000, those of centrifugal type, together with engines, being purchased for \$5,912.

Parkersburg, W. Va.—By City Council for construction of 6,000,000-gal. reinforced concrete circular reservoir located on Boreman Hill, from plans of L. E. Chapin, Frick Bldg., Pittsburgh, Pa., to Nelson-Meredith Co., of Chambersburg, Pa., for \$48,560. Other bidders: W. M. Christolm & Son, of Pittsburgh, Pa., \$57,456; Daniels & Higgs, of Parkersburg, \$55,456; H. J. Zevely Co., Morgantown, \$65,373; J. Skene & Sons Co., Huntington, \$60,588, and Steele Constr. Co., of Pittsburgh, Pa., \$53,153.

LIGHTING AND POWER

Alameda, Cal.—Superintendent of Electricity Joseph Kahn has announced that he had commenced work on plans of new municipal electric light and power plant, and that as soon as he completes rough draft they will be turned over to architect to prepare for builders.

Pasadena, Cal.—City Council has granted permission to C. W. Koiner, superintendent of municipal lighting plant, to connect ornamental lights to Union st. with overhead wires. Installation of these lights will mean that Union st. will become one of the best-lighted thoroughfares in city.

Indianapolis, Ind.—On recommendation of Henry W. Klausmann, City Engineer, Board of Public Works, has rejected bids for five year contract for gas street lighting. Klausmann has been asked by Board to prepare new specifications, on which new bids will be asked.

Audubon, Ia.—Tramps & Cornlius, of Creston, have asked for electric light franchise.

Coon Rapids, Ia.—At special election proposition for 20-year electric light franchise asked for by Editor Henry was granted by vote of 140 for to 18 against.

Delta, Ia.—Sigourney Transmission Co. has been awarded electric light franchise.

New London, Ia.—Bonds have been authorized for installation of municipal lighting plant.

Storm Lake, Ia.—Ornamental lighting system will be installed by council.

Foxhome, Minn.—Installation of electric lights will be voted.

Hibbing, Minn.—Installation of white way light system has been planned by Water and Light Commission.

St. Peter, Minn.—Ornamental lighting system is to be installed on Minnesota ave.

Butte, Mont.—City Council has passed new lighting ordinance providing for creation of a new improvement district in business section of city to be lighted by luminous arc system.

Hastings, Neb.—Petition has been completed for extension of ornamental lighting system in Second st., from St. Joe ave. to Wabash ave. and will be presented to council.

Albany, N. Y.—Public Service Commission, Second District, has authorized Suffolk Light, Heat and Power Co. to purchase from Riverhead Electric Light Co. that part of its franchise and system which it now operates in town of Southampton, Suffolk County, and to exercise franchise granted to Riverhead Co.

Cohoes, N. Y.—Installation of municipal electric light plant is recommended.

Niagara Falls, N. Y.—Installation of municipal lighting plant is being discussed.

Philmont, N. Y.—Taxpayers have voted in favor of \$5,000 lighting bonds.

Hastings, Neb.—City Council has granted petition of property owners for extension of ornamental lighting system in First st. between Denver and Lincoln aves.

Larimore, N. D.—Establishment of white way is being considered by council.

Amherst, O.—H. L. Doherty Company syndicate of New York has purchased electric lighting plant of Amherst, O., and entered into contract to supply electricity to village for ten years.

Barberton, O.—Question of establishing municipal lighting plant is being considered.

Hillyard, Wash.—Committee on Lights has been instructed to investigate matter of extending lighting system to serve all parts of city. Committee reported that in their opinion arc lamps should be installed on every other street intersection. Council adopted Washington report and instructed City Clerk to authorize Washington Water Power Co. to install lamps.

Kenosha, Wis.—Effort is being made to work out lighting system for business

district. Cluster lights are favored by many merchants.

CONTRACTS AWARDED.

Tropico, Cal.—City Council has entered into contract with Pacific Light and Power Company, which now owns and controls Brand plant, to light streets and homes of city. Contract calls for 100 street lights, immediately, at \$1 each a month, and reduce price now charged, from 15 cts. to 9 cts. until January next, and after that time to be 8 cts. a kilowatt hour.

Bennett, Ia.—To F. A. Blakeslee, of Bemidji, Minn., for installation of electric light plant.

Newburgh, N. Y.—By Street Committee, for 26 single light ornamental lighting poles for Second st., to Morris Iron Co., of New York City, for \$600.

Utica, N. Y.—By Park Board, for installation of 16 luminous arc lamps along Parkway, to lowest bidder, H. G. Harfield, in amount of \$4,449.60. Only other proposal received was from Langdon & Hughes Electric Company, whose bid amounted to \$4,790. Work on installation of these 16 lamps will be begun at once.

FIRE EQUIPMENT

Los Angeles, Cal.—Recommendations calling for erection of fire station at Figueroa st. and Slauson ave. and one at Central ave. and Fourteenth st. have been approved, and Board of Public Works has been ordered to have plans for these buildings drawn. First will cost \$9,000 and latter \$12,000.

Pasadena, Cal.—Bond election will be held shortly to vote on acquiring of Carmelita grounds and for converting horse-propelled apparatus of fire department into motor-driven vehicles.

San Jose, Cal.—All bids for motor fire engines flashlight system and other articles have been returned to bidders unopened.

South Manchester, Conn.—Appropriation of \$3,500 has been authorized for purchase of new automobile truck for hose house of Center Hose Company No. 2.

Macon, Ga.—Council has voted to purchase Lafrance combination engine and pump at price of \$8,000. Bids were read from Lafrance and Webb companies for chemicals and for pumps. Prices of pumps were same.

Dubuque, Ia.—Sum of \$12,000 has been appropriated for purchase of motor fire engine.

Leavenworth, Kan.—City will purchase two new motor trucks for Fire Department this year, and these will cost about \$11,000.

Boston, Mass.—Mayor is urging Finance Committee of City Council to recommend loan order for \$70,000 which will provide for new headquarters for department.

Everett, Mass.—Purchase of auto for fire chief has been authorized.

Framingham, Mass.—Bids have been rejected for furnishing motor combination wagon.

Haverhill, Mass.—Installation of fire and police alarm system is being considered; estimated cost \$21,000.

Leicester, Mass.—Purchase of motor fire engine has been recommended by Fire Chief Perry.

Tracy, Minn.—City Recorder is receiving bids for 500 ft. of fire hose.

Perth Amboy, N. J.—Committee on Fire presented recommendation for additional apparatus, addition to fire houses, horses, etc., amounting to more than \$20,000, and recommended that bonds be issued to pay for same. List included motor hose and chemical apparatus or combination wagon for McClellan Engine Company and 3,000 feet of new hose for all companies.

Trenton, N. J.—Fifty-two thousand dollars' worth of Trenton's Fire Department improvement bonds have been sold at city clerk's office to Watson & Pressprich, of New York.

Bailston Spa, N. Y.—Union Fire Co. has decided to purchase auto fire truck. Chassis will be taken from seven-passenger Pope-Hartford automobile which company will purchase of William Knickerbocker for \$1,100.

Cleveland, O.—Motor tractor and engine will shortly be purchased.

Dayton, O.—Residents of Ludlow st., from Second to Third, having adopted Boulevard system of lighting, contract for illumination of this thoroughfare has been awarded to Dayton Lighting Company at its bid of \$55 per pole.

Enola, Pa.—Up-to-date fire alarm system will be installed.

Erie, Pa.—Ordinance has been passed issuing \$5,500 bonds for aerial hook and ladder truck for fire headquarters.

Philadelphia, Pa.—Not until Councils meet can Director Porter purchase automobile equipment of "flying squadron" for Fire Department. His plans call for purchase of motor trailers for fire apparatus, so that instead of being horse drawn, motor power will be installed. Automobiles were also to be provided for chief and district engineers, total of 13 machines.

Woonsocket, R. I.—City Council Committee on Fire Department has voted to advertise for bids for new auto combination hose wagon and 75-ft. auto-driven aerial truck, which are to be purchased and placed at No. 3 Fire Station. Estimated cost of combination hose wagon is about \$5,500, and for aerial truck is about \$8,300.

Fort Worth, Tex.—Proposition to purchase automobile combination hose carrier and pump is being considered.

CONTRACTS AWARDED.

Marion, Ind.—To Alex Woolman for construction of North Marion fire station.

Missoula, Mont.—For installing fire alarm system, to Gamewell Co. at \$4,561.

Nyack, N. Y.—By Board of Trustees for supplying village with 1,000 ft. of hose, to Columbian Co., at \$735.

Portland, Ore.—By Fire Committee, for 6,800 feet of hose, to cost \$6,984, and recommendations will be made to board as follows: To the Fabric Fire Hose Company, 3,000 feet 2½-inch hose, \$1.10 a foot; Eureka Fire Hose Manufacturing Company, 2,000 feet 2½-inch hose, \$1.20 a foot; Nott-Joslyn Company, 500 feet 2½-inch hose, 90 cents a foot; Pacific States Rubber Company, 500 feet 2½-inch hose, 88 cents a foot; Eureka Fire Hose Company, 500 feet 1½-inch hose, 65 cents a foot; Fabric Hose Company, 450 feet 1½-inch hose, 67 cents a foot.

Carbondale, Pa.—By City Council for 1,000 ft. of fire hose, 500 ft. for Eureka Hose Company, and 500 ft. for Renstein Company, at 80c. per ft., and 10 fire hydrants to Darling Company, at \$21.50.

Scranton, Pa.—For furnishing to city of ten additional fire alarm boxes to Star Electric Company of Binghamton.

Spokane, Wash.—By City Council for new 90-horsepower auto hose wagon for fire department to Webb Motor Fire Apparatus Co., of St. Louis, at \$5,500. Robinson Fire Apparatus Company of St. Louis, submitted bid of \$5,320, but was not awarded contract.

BRIDGES

San Bernardino, Cal.—County Engineer has completed plans for construction of steel truss bridge of four 60-ft. spans.

Naugatuck, Conn.—Contractor G. G. Riggs, of Waterbury, expects to begin erection of a new reinforced concrete bridge at Cotton Hollow. Contract price is \$4,448, and expense will be shared by towns of Naugatuck and Beacon Falls.

Rome, Ga.—Present Board of Roads for Floyd County authorized following statement to public: During next four years, we shall build three concrete viaducts over rivers in Rome, one in East Rome, one on South Broad and the third over the Oostanaula on Fifth ave. Expenditures will approximate \$240,000.

Holyoke, Mass.—Concrete bridge will be built 100 ft. south of Fomer dam to replace present wooden structure which spans space. City Engineer T. J. McCarthy is at present preparing plans for proposed concrete edifice which will have iron and steel frame.

Toledo, O.—County Commissioners have authorized County Surveyor to prepare plans and specifications for improvement of 14 bridges as follows: Concrete retaining wall and fill for bridge over ditch 372 on Dorr at Calvary cemetery in Adams township, \$500; superstructure and back walls for bridge over Ten-Mile creek on county road in Adams township, \$3,300; concrete abutment for bridge over Ten-Mile creek on the county road in Adams township, \$3,196; culvert over ditch 241 on county road in Monclova township, \$747; culvert over ditch 287 on county road in Oregon township, \$1,560; culvert over ditch 377 on county road in Swanton township 500 ft. north of the Chicago branch of the Wabash railroad, \$680; culvert over ditch 337 on North and South road in Waterville township, \$735; new east abutment to bridge over Swan creek at Wabolt farm in Waterville township, \$2,950; superstructure and back walls for bridge over Ten-Mile creek on Monroe st., near city line in Washington township, \$4,000; new south abutment to Ford st. bridge, over canal at Maumee, \$2,097; creosoted

wood block floor for Ford st. bridge over canal in Maumee, \$400; new floor and back walls for bridge on Kingsbury st., over the canal in Maumee, \$998; culvert over ditch on county road in Swanton township, 60 rods north of Swan creek, \$450; new bridge on county road over Cedar creek in Jerusalem township, \$500.

Eugene, Ore.—County Commissioners will erect steel bridge across Elk River at this place immediately.

Galice, Ore.—New bridge with span of 250 ft. will be constructed by Commissioners of Josephine County over Rogue River, to cost about \$50,000.

Prineville, Ore.—County Commissioners have decided to construct bridge over Desrochers River.

Tillamook, Ore.—Designs for steel bridge span across Hoquarton slough are being prepared by Stannard & Richardson, Henry Bldg., Portland, Ore.

Meadville, Pa.—City Engineer Miller has presented plans and specifications for proposed bridge in Grove st., to cost \$5,500.

Milwaukee, Wis.—County Board Committee on Highways, Bridges and Railroads and Laws, Legislation and Rules have voted to recommend to County Board that new bridge be built over Milwaukee River on Port Washington road.

CONTRACTS AWARDED.

Seale, Ala.—By County Commissioners for constructing 90-ft concrete arch bridge over Little Uchee Creek, to J. Gray Hanlon, of Birmingham, for \$5,460. W. S. Keller is State Highway Engineer, Montgomery.

Riverside, Cal.—To Robert H. Swinney, of San Bernardino, for construction of 4-span highway bridge across Riverside-Rialto rd., at \$4,203.

Victor, Cal.—To build bridge across Mokelumne River, at this point on new Sacramento-Stockton road to Jenkins and Wells at cost of \$23,422.

Dubuque, Ia.—Board of Supervisors has adopted resolution awarding contracts for construction of bridges and culverts in county and for repairs on bridges and culverts to lowest bidders. As result of ordinance Clinton Bridge Company was awarded contract for big end of work. Leonard & Lee of Dubuque and N. J. Staner, also of Dubuque, secured part of work. Contracts awarded amounted to in neighborhood of \$25,000 or about \$1,000 each for twenty-five contracts which were bid on.

Cranford, N. J.—By Board of Freeholders for erection of two bridges in Cranford, in Raleigh and Parker aves. The Parker ave. bridge is less than foot longer than one in Raleigh ave. by reason of angle of road. There were three bidders on each, as follows: Raleigh ave.—L. L. Loveland, \$628; Shafer & Newman, \$515; E. L. Moore, \$518. Parker ave.—L. L. Loveland, \$628; Shafer & Newman, \$520; E. L. Moore, \$518. Shafer & Newman were awarded contract for Raleigh ave. bridge and E. L. Moore Parker ave. structure. This makes total cost of the bridges \$1,033.

Mamaroneck, N. Y.—To Centering Company, of West Hoboken, N. J., for construction of Depot pl. bridge at bid of \$1,252.

Mount Holly, N. J.—By Board of Freeholders for construction of concrete bridges over Assisunk Creek at Broad and Pearl sts., to Ferro Concrete Co., of Harrisburg, at \$10,468, on Broad st. bridge and \$15,723 on Pearl st. bridge.

Ebensburg, Pa.—Bids on Amsbury bridge across Clearfield Creek have been opened by County Commissioners, but contract has not yet been awarded. Bids were as follows: John Ceresa, Cresson, \$2,045; Delozier & Gutwald, of Amsbury, \$4,500; A. J. Lord, Hastings, \$2,235.

Lewisburg, Pa.—For constructing bridge over Susquehanna River, between Milton and West Milton, to Owego Bridge Co., of Owego, N. Y., for \$10,600.

Pittsburgh, Pa.—Contracts aggregating about \$85,000 for rebuilding of Seventh and Thirtieth st. bridges across Allegheny River will shortly be awarded by County Controller and Commissioners. Apparently Pittsburgh Construction Company is lowest bidder for both contracts. It proposes to reconstruct Seventh st. span for \$44,000 and Thirtieth st. for \$27,000. The bid of Capital Construction Company for Seventh st. bridge is \$46,962. The other bids were as follows: C. M. Neil, Seventh st., \$66,700; Fort Pitt Bridge Company, Seventh st., \$57,000; Thirtieth st., \$32,900; John Elchleay, Jr., Company, Seventh st., \$55,240; Thirtieth st., \$32,815; F. A. Shellenberg Company, Seventh st., \$55,240.

Davenport, Wash.—For constructing 75-ft. steel span bridge across Crab Creek, near Edwall, a 60-ft. steel span bridge across Fishtrap Creek, near

Sprague, and 60-ft. steel span bridge across Cole Creek, near Mohler, to Coast Bridge Co., 407 Railway Exchange, Portland, Ore., for \$6,100.

Milwaukee, Wis.—By Department of Public Works for reinforced concrete bridge across Kinnickinnic River at Eighth ave. to Czarapata Construction Company at \$2,800. Bid was lowest of six received.

MISCELLANEOUS

Long Beach, Cal.—City of Long Beach has decided to issue bonds to amount of \$1,500,000 for civic improvements. They will be apportioned as follows: For pier at Devil's Gate, \$50,000; for sewer improvements, \$350,000; for pier connecting Pier and American aves., \$300,000; for harbor frontage, \$350,000; and for construction of city hall, \$100,000. In addition it has been decided to issue bonds for \$100,000 for dock and harbor improvements.

Los Angeles, Cal.—Plan calling for expenditure of \$250,000 for construction of incinerator or reduction plant is being considered.

Los Angeles, Cal.—Bids will shortly be advertised by Board of Public Works for wharf to be built by city in Mormon Island Channel.

Los Angeles, Cal.—Because of error in advertisement of contract for removing jetty on east line of Huntington fill and constructing dyke, Board of Public Works will readvertise for bids. Contract was awarded to Standard American Dredging Company for \$25,000.

Pasadena, Cal.—Two thousand dollars will be expended by city in remodeling City Hall annex. C. F. Driscoll has been appointed by city officials to draw up plans for remodeling work.

Tampa, Fla.—City has voted \$1,700,000 for issuance of bonds for improvements.

Haverhill, Mass.—Installation of police and fire alarm system is under consideration; cost about \$21,000.

Swampscott, Mass.—Town will shortly vote on purchase of automobile ambulance.

Holdrege, Neb.—On Sept. 17 people of Holdrege will vote on proposition to issue bonds for sum of \$5,000 for purpose of establishing and maintaining public park.

Red Cloud, Neb.—Petition is being circulated to call election to vote on erection of new court house to cost about \$50,000.

Atlantic City, N. J.—For harbor improvement, \$50,000 is to be immediately expended by Commissioners, so soon as bonds can be issued and work started.

Amsterdam, N. Y.—Board of Supervisors is considering plans for construction of new jail.

Endicott, N. Y.—Special election for purpose of bonding village for \$30,000 to build new municipal building and fire station has been carried by majority of 68.

Ossining, N. Y.—On September 3 a special election will be held to decide on proposition whether there is to be municipal building. Proposition will include bond issue of \$75,000 and choice of property to be purchased.

Cincinnati, O.—County Commissioners have adopted resolution providing for vote of people on election day, Nov. 5, for issue of \$500,000 in bonds to provide funds for necessary new buildings and equipment to Longview Hospital.

Cincinnati, O.—City Council is considering erection of municipal garbage plant.

Hamilton, O.—County Commissioners have awarded bond issue of \$50,000 for reconstruction of courthouse to First National Bank of Columbus.

Farrell, Pa.—Bids will shortly be required for construction of market house.

Star City, W. Va.—Bond issue of \$50,000 is being considered for improvement.

Spokane, Wash.—City Commissioners have accepted proposition of State Board of Finance to purchase \$250,000 City Hall bonds.

CONTRACTS AWARDED.

Los Angeles, Cal.—For riveted sections and siphon over Bee canyon at power plant to Treadwell Construction Co., of Midland, Pa., at \$38,876.

Lynn, Mass.—For construction of foundation for municipal stable and sheds to be built on Gas Wharf by Municipal Commissioners, to Vroom Bros., of Lynn, whose bid of \$3,728 was lowest of five bids opened at Commissioners' meeting. Other bidders and their amounts were: David J. Sheehan Co., \$3,774; F. D. Mayo, \$3,988.50; John W. Sheehan, \$4,482; Wilson & Tomlinson, of Boston, \$10,257.

Albany, N. Y.—Aldrich & Hall, contractors, of Schenectady, submitted lowest bids for barge canal terminal at Fort Edward. The Schenectady contractors' bid was \$39,309, as against bid of New York State Dredging Company, Rochester, \$49,670. This work is on Contract 7. Contract 7-A was not bid on by Schenectady contractors. This went to New York State Dredging Company at its figure, \$139,404.

Goshen, N. Y.—By Building Committee

of Supervisors, for erection of stone shed in yard of Goshen jail, to W. C. Altman, of that village, for \$3,660.

Clifton, Pa.—Council is considering horsepower, stripped, \$2,100; with standard express body, additional seats and complete supplies, \$2,330. Buick Motor Co., Buick delivery truck to carry 1,500 pounds, 22 horsepower, \$1,000; complete with express top, \$1,075. Garland Automobile Company, of New York, Velle 1,-

500-pound truck, 40 horsepower, F. O. B. Perth Amboy, \$1,650. A. Jensen, Ford car with express body, 22½ horsepower, to carry up to 1,500 pounds, F. O. B. Perth Amboy, \$640. C. A. Sexton, Reo 1,500-pound, 30 horsepower truck, F. O. B. Perth Amboy, \$950.

Eric, Pa.—To F. G. Diefendorf for building retaining wall for 100-ft. street approach to public steamboat landing at \$14,725.

TOO LATE FOR CLASSIFICATION

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS.				
Ohio	Columbus	Sept. 6, 2 p.m.	Constrn. 2.51 miles of pavement, Ashland & New London Road	Jas. R. Marker, St. Hway Comr.
		Sept. 6, 2 p.m.	Constrn. .34 miles of water bound macadam, in Jasper	Jas. R. Marker, St. Hway Comr.
		Sept. 6, 2 p.m.	Constrn. 2.02 miles of gravel macadam in Bath Township	Jas. R. Marker, St. Hway Comr.
		Sept. 6, 2 p.m.	Constrn. 3.50 miles of water bound macadam in Johnson Township	Jas. R. Marker, St. Hway Comr.
		Sept. 6, 2 p.m.	Constrn. 2.76 miles of water bound gravel macadam in Xenia Twp.	Jas. R. Marker, St. Hway Comr.
Ohio	Lorain	Sept. 6, noon	Improving a number of streets	L. B. Johnson, Clk. Dir. Pub. Ser.
WATER SUPPLY.				
Georgia	Zebulon	Oct. 1	Constructing water works system	M. M. Head, Mayor.
FIRE EQUIPMENT.				
New Jersey	Camden	Sept. 4, 8 p.m.	Constrn. fire house	H. R. Read, City Clerk.
Minnesota	Tracy	Sept. 5	Furnishing 500 ft. of 2½-in. fire hose	L. J. Fitch, City Recorder.
Dist. Col.	Washington	Sept. 9, 2 p.m.	Furnishing gasoline pumping engine & hose wagon combined, 1 gasoline aerie hook & ladder truck, new boiler and rebuilding engine No. 1	C. H. Rudolph, Comr.
Ohio	Circleville	Sept. 16	Furnishing 1 motor combination pumpin engine & hose wagon	Wm. Miller, Dir. Pub. Safety.

STREET IMPROVEMENTS

Indianapolis, Ind.—Plans for macadamizing Crawfordsville rd. from Indiana ave. to Emrichsville bridge across White river, are being completed by Board of Park Commissioners. Plans provide for macadam roadway 15 ft. wide. Full width of the present roadway is about 35 ft.

Bemidji, Minn.—At special election bonds were voted to defray cost of paving road between Bemidji and Nymore. Nearly mile of paving will be done and work will start at earliest moment.

Duluth, Minn.—Fifth st. is to be paved from 38th to 43d at estimated cost of \$16,210.

St. Paul, Minn.—Paving of Ronda st. with asphalt has been authorized; estimated cost, \$16,315.

Beatrice, Neb.—Plans have been made for repaving 20,657 yds. at estimated cost of \$47,680.

Atlantic City, N. J.—Paving of New Jersey ave. is being considered.

Clayton, N. J.—Council has ordered paving of Central ave. with concrete.

Niagara Falls, N. Y.—Common Council has ordered paving or macadamizing of Ninth st., from Grove ave. to Center ave.

Brownsville, Tex.—Taxpayers of Cameron county will vote on bond issue of \$250,000 October 1 for construction of macadamized county roads.

Dallas, Tex.—Thirteen streets in Dallas will shortly be paved.

Orange, Tex.—At a meeting of City Council recently petition by 150 voters asking for election to permit people to vote on question of issuing \$20,000 more street improvement bonds, amount allowable under law was presented. While no definite action was taken council will call election and set the date.

Terrell, Tex.—Moore ave. will be paved with rock as soon as the necessary preliminaries have been completed.

Grandview, Wash.—Movement is on foot for bond issue of \$1,000,000 for good roads in county.

CONTRACTS AWARDED.

Sacramento, Cal.—For furnishing and applying oil to county road running from old River Ferry to lower line of Ruble Ranch in Fifth Road District, at \$1.65 per barrel, by Board of Supervisors to Mosher Brothers. Charles Stударus was given contract for leveling,

grading and scarifying county road from Rio Vista Ferry to Hood City, distance of 26 miles at \$120 a mile.

Moline, Ill.—By city for paving as follows: 7th st. and 15th ave., to include 15,000 sq. yds. brick plant, 1½-in sand cushion, asphalt fill, 1:3:6 foundation and 10,000 lin. ft. granite-concrete curb, to Western Improv. Co., of Racine, Wis., \$38,292; 15th st., to include 795 sq. yds. brick block pavement, 1,480 sq. qds. hillside brick pavement, 2,275 sq. yds. 1½-in. sand cushion, 2,275 sq. yds. 1:3:6 4-in. concrete foundation, 1,090 sq. yds. grout fill, 1,185 sq. yds. sand fill, 1,964 lin. ft. concrete header, to I. D. Lain, of Bloomington, for \$4,325.

Indiana.—For paving as follows: Richmond, for improving Richmond and New Port Turnpike to John O. Potter, Muncie, for \$29,200. Crawfordsville, improvement Grant ave. to W. I. Buchanan, \$57,193, and J. N. Merritt rd. to Snyder & Barnett of Frankfort, \$11,795, and Flanigan rd. to G. R. Lynch & Sons, 10,670. Crown Point, to Mr. Barnes of Hobart, for construction of 4,730 ft. of gravel road known as Bank gravel road at \$8,376. Mt. Vernon, for construction of Fritz Schnack gravel road in Blackford Township to S. R. Adams & Co., at \$5,564; Shelbyville, for construction of gravel road in Union Township to J. Marsh Goodrick, of Shelbyville, for \$6,125.

Atlantic, Iowa.—For paving several streets to Kimballton Construction Co., of Atlantic, at \$1.29 per sq. yd. for concrete paving.

Portsmouth, O.—By County Comrs. for paving mile of Chillicothe Pike to Henry P. Kaps for \$12,537.

Steubenville, O.—By Bd. Control for paving as follows: H. M. Bates, \$7,723, and Ohio St. to J. O. Bates at \$6,665.

Spokane, Wash.—Sprague ave. and the Seventh ave. paving contracts, two biggest of \$175,000 street contracts awarded by City Council were awarded to Spokane Mitu-Mass Co. for bitu-mass, patented paving, for \$61,142 and \$11,363, respectively. Other awards of Council are as follows: To C. M. Payne, improving Euclid ave., Freya to Havana st., \$2,990. To J. B. Mitchell, improvement of Garfield st., 29th to 31st ave., \$2,019. To T. G. H. Weller, sidewalk on the east side of Sherman st., Sprague ave. to Pacific ave., \$272, and curbing and parking Gardner ave., Cochran to Lindeke st., \$750.

Walla Walla, Wash.—For improvement district No. 104 on East Alder st., lowest bid was received from Tribon & Blackman, as follows: 7,840 sq. yds. plain concrete pavement without guaranty, \$1.08 per sq. yd.; 5,470 lin. ft. straight curb and gutter at 60c. per lin. ft.; 225 lin. ft. combined curb and gutter at 70c.; 900 lin. ft. 6-in. sewer at 20c.; 550 lin. ft. 10-in. sewer at 38c.; 220 lin. ft. concrete header at 20c.; 4 catch basins at \$30 each; 2 manholes at \$35; 4 inlets at \$12 each. Total bid, \$14,102.65. He also bid on concrete with top at \$1.25 per sq. yd.; total bid \$15,435.45. Two course concrete at \$1.18 per sq. yd.; total bid, \$14,897.90, and 5-in. Dolarway at \$1.20 per sq. yd., without guaranty; \$1.30 with guaranty. Contract was awarded on bid of 5-in. Dolarway with guaranty, total bid being \$15,827.45. Same firm was awarded contract for laying 19,000 sq. ft. concrete sidewalk at 12½ cts. per sq. ft. Other bidders were as follows: Xura Case, total bid for plain concrete without guaranty, \$18,378; Barber Asphalt Paving Co. for standard bitulithic; total bid, without guaranty, \$22,560.20, and with guaranty \$23,344.20; Inland Hassam Paving Co., for plain concrete with and without guaranty, \$15,965.65 and \$16,514.45; Montague O'Reilly Co. for El-Oso, with and without guaranty, \$20,953.40 and \$21,737.40; Wilson Bailey Construction Co., for 5-in. Dolarway, with and without guaranty, \$15,738.15 and \$16,130.15. W. R. Reboen, City Engineer.

SEWERAGE

South Bend, Ind.—Resolutions for number of improvements have been confirmed by Board of Public Works. Improvements are for pipe sewers on Witter ave., Fuerbringer st., Linden ave., Carlisle and Sadie sts.

Benson, Minn.—Construction of 24-in. sewer on Oregon st., from 11th to 13th sts., has been authorized.

Duluth, Minn.—Construction of proposed Park Point Sanitary sewer is estimated to cost \$21,500.

Perth Amboy, N. J.—Construction of sewer in Water st. is recommended.

East Youngstown, O.—Bids will shortly be advertised for completion of sewer work.

Marysville, O.—Dr. Eugene F. McCampbell, secretary of State Board of Health, has made investigation of Town Run, which may result in State Board ordering Marysville to install sanitary sewerage system.

Pulaski, Va.—Pulaski will vote September 11 on \$50,000 bond issue for sewerage system.

CONTRACTS AWARDED.

Burlington, Iowa.—To Young & Bueschler for storm sewer in Main st., from Maple to Angular, at 89c. per ft.

Aurora, Minn.—Pastoret-Lawrence Co. submitted lowest bid for sanitary sewer system at \$8,824. C. C. Butler bid \$8,935.

Helghtstown, N. J.—For \$35,000 sewer system and disposal plant to John R. Jeffrey, Elberon.

Woonsocket, R. I.—For building surface water drain in Main and Clinton sts., to Eastern Construction Co.

North Yakima, Wash.—Two contracts for work costing aggregate of \$125,000, to be begun by county this fall, have been let by County Commissioners. The Wright Contracting Co., of Tacoma, bidding \$52,069.75, gets contract for construction of several miles of drainage ditch in drainage district No. 9, near Grandview, including excavation, laying of six sizes of concrete pipe, back filling and wood construction.

Spokane, Wash.—To DeCamp & Cheatham for construction of sewer in alley between Sinto and Sharp aves., Cedar to Madison st., and on Sharp, \$3,534.

WATER SUPPLY

Richmond, Cal.—Installation of municipal waterworks plant is being considered.

San Diego, Cal.—Voters have decided in favor of issuing \$2,500,000 in bonds for purchase of water supply.

Milltown, Ga.—Plans are under consideration for installation of municipal waterworks for cost about \$10,000.

Crete, Ill.—Watermains will be extended, to cost \$9,000.

Kokomo, Ind.—Municipal waterworks system is under consideration.

Haven, Kan.—Construction of waterworks system is under consideration.

Honeoye Falls, N. Y.—Bond issue of \$42,000 has been voted for construction of waterworks system.

Port Washington, N. Y.—Installation of municipal waterworks system is under consideration.

Warsaw, N. Y.—Old water plant will be purchased and improved by village.

Akron, O.—Waterworks bonds in sum of \$30,000 have been awarded to Will Roth & Co. of Cincinnati.

East Liverpool, O.—Election will be held Oct. 1 for voting on \$250,000 bond issue for installation of mechanical filter plant.

Niles, O.—Mayor Naylor has stated that preparations will be made at once for laying of water mains on North Main st. before paving is commenced.

Britton, S. D.—City Council has concluded arrangements for sinking of new artesian well, to increase supply of water for local waterworks system.

Abilene, Tex.—City is considering installation of water meters.

Austin, Tex.—Attorney-General's department has approved \$490,000 City of Port Arthur bonds issued for construction of waterworks, city hall, fire department and sewers.

CONTRACTS AWARDED.

Gilman, Ia.—For constructing waterworks system to Des Moines Bridge & Iron Works Co., at \$12,000.

Seneca Falls, N. Y.—To Roberts Filter Co. of Darby, Pa., for installing filter plant.

LIGHTING AND POWER

Gilmore City, Ia.—Franchise has been granted H. W. Heath for electric lighting.

Rolfe, Ia.—Franchise has been granted Ward Ferguson for electric lighting.

Warren, Minn.—Council is considering bond issue for electric light plant.

Doniphan, Neb.—Town is considering installation of electric light and water system.

Eaton, O.—At special election to be held, voters of village of Eldorado will decide whether or not bond issue of \$2,500 shall be floated for purpose of installing lighting system. It is planned to have current carried to that village from Greenville.

Kaysville, Utah.—City Council has granted franchise for twenty-five years to Home Telephone & Electric Co. to furnish power and lights to inhabitants of

Layton, Clearfield, Hooper, Syracuse and occupants of houses outside city limits.

FIRE EQUIPMENT

Pomona, Cal.—City will shortly purchase 200 ft. of chemical hose.

San Jose, Cal.—Bids will be readvertised for two motor fire engines.

Fort Wayne, Ind.—Appropriation of \$7,500 will be considered for purchase of automobile ladder truck for No. 2 engine house.

Leavenworth, Kan.—Purchase of two motor fire trucks, to cost \$11,000, is contemplated.

Delaware, O.—City is considering purchase of combination auto fire truck and of transforming its hook and ladder wagon into auto-propelled vehicle; estimated cost, \$6,500.

Lancaster, O.—Automobile fire engine will probably be purchased.

Niles, O.—New fire station will be erected in this city.

Annyville, Pa.—New fire station will be erected.

Park City, Tenn.—Purchase of new auto fire trucks is contemplated.

Portsmouth, Va.—Purchase of motor apparatus is being considered; also purchase of tractors.

Janesville, Wis.—Purchase of motor fire apparatus is under consideration.

Windsor, Ont., Can.—Purchase of additional fire engine is contemplated.

CONTRACTS AWARDED.

San Francisco, Cal.—By Fire Commission, for hose on which four bids had been received, and made following awards to lowest bidders: To Bowers' Rubber Works, contract for 2½-in. hose, \$7 cents per foot; American Rubber Manufacturing Co., 3½-in. hose, \$1.19 per foot.

Dubuque, Ia.—To Robinson Fire Apparatus Mfg. Co. of St. Louis, Mo., for furnishing city with motor fire engine.

Carbondale, Pa.—For 1,000 ft. of hose to Eureka Hose Co., and 500 ft. to Renstein Co., at 80 cents per ft.

BRIDGES

Millville, N. J.—As many citizens have urged Council to ask for new bridge to span northern end of Maurice River, petition will be sent to Cumberland County Board of Freeholders that drawbridge be granted.

CONTRACTS AWARDED.

Sacramento, Cal.—To H. A. Jennings, to build nine-span timber trestle on new road commencing at east approach to new American River bridge at H st.

Allee, Tex.—To Midland Bridge Company of Kansas City, for construction of steel bridge across Los Olmos Creek.

MISCELLANEOUS

San Francisco, Cal.—Petition for election on proposition of issuing bonds to amount of \$6,000,000 for acquiring for city automatic telephone system, has been filed with Board of Supervisors.

Tampa, Fla.—Bond issue of \$1,700,000 has been voted. Money from bond issue is to be used as follows: For extension of the sewerage system, \$551,215.71; for paving and storm sewers, \$748,784.29; for city hall and adequate site for same, \$300,000; for city docks and parks, \$100,000.

Indianapolis, Ind.—Purchase of new motor ambulance for city hospital is urged.

Le Roy, N. Y.—Taxpayers of town of Le Roy at special election on Saturday, August 31st, will vote on question of raising by taxation sum of \$7,500 as town's share of the new municipal building to be erected in this village. Village taxpayers recently voted to raise \$15,000 for same purpose.

Niles, O.—At special meeting of Warren City Council ordinance was adopted authorizing city to issue \$20,000 in bonds which will be used for purpose of completing improvements at Packard Park.

Austin, Tex.—Extensive municipal improvements are predicated for Port Arthur in new \$450,000 issue of bonds just approved by attorney-general. Proceeds of bonds are to be devoted to construction of new city hall, new sewer system and improvement of waterworks system.

CONTRACTS AWARDED.

Chester, Pa.—For erection of shelter shed on new public pier at foot of Market st., to Cantrell Construction Co. of Philadelphia.

New Corporations.

Springfield & Merg Reduction Co., Boston, collect garbage; capital, \$200,000. Incorporators: George R. Fearing, Thomas G. Frothingham, Henry A. Frothingham, all of Boston.

Standard Paving Co., Chicago, Ill., contracting capital, \$20,000. Incorporators: Andrew Jaiks, V. A. Wright, all of Chicago.

The Central Gas & Electric Co., Portland, to contract, acquire and operate power and lighting plants; capital, \$20,000,000. Incorporators: Albert F. Jones, Albert A. Richards, James E. Manter, all of Portland.

National Contracting Co., of Passaic, Passaic, N. J., general contracting; capital, \$10,000. Incorporators: Wm. B. Davidson, 235 Main avenue, Passaic; Joseph Silverstein, 11 Chestnut street; J. Daul, 3 Union avenue, Rutherford.

Water Co. of Tonopali; capital, \$1,000,000. Incorporators: Isaac Fogg, George D. Hopkins, George W. Dillman, all of Wilmington.

The Scott Drill Company, St. Louis, Mo., capital, \$500,000. Incorporators: President, Frank Wyman; vice president, Lewis L. Scott; secretary, John R. Williams; treasurer, Kurt V. Moll; Albert Blair, J. D. Johnson, J. E. Pilcher, N. F. Niederlander, William L. Rodgers and William Einstein.

Ideal Fire Detector Company, West Orange, N. J.; capital, \$25,000; objects, to manufacture fire apparatus. Incorporators: Charles H. Kayser, J. Esdaile, Florence and William Hampton.

Long Beach Gas Co., Camden, N. J., operate gas plants; capital, \$5,000. Incorporators: Charles H. Large, G. W. Taggart, George W. Grant, H. G. Willets, Beach Haven.

Monmouth Power & Light Co., Monmouth, Ia., operate a heat, light and power plant; capital, \$10,000. Incorporators: J. S. Walsh, John J. Ryan, Pauline Wagner, of Davenport, Iowa; Edmund A. Bonney, Gladys F. Bonney, 80 Clarissa street; Wm. J. Gilmore, 1338 Park avenue, Rochester.

PROPOSALS

PAVING AND SEWERAGE

Springfield, Ohio.

The Director of Public Service of the City of Springfield, Ohio, will receive bids for the following work, until 12 o'clock noon of Thursday, September 5, 1912, at the office of the Clerk to said Director, Room 6, City Building.

INDIAN RUN STORM WATER SEWER:

2,000 lin. ft. 12 ft. by 6 ft., reinforced concrete sewer. 2,119 lin. ft., 10 ft., by 5 ft., reinforced concrete sewer. 6,725 lin. ft., 60 inch, reinforced concrete sewer. 2,909 lin. ft., 42 inch, reinforced concrete sewer. 3,000 lin. ft., 12 inch, vitrified pipe concrete sewer. 140, catch basin. 51 manhole concrete, 5 foot. 9,640 cu. yds., rock excavation.

McCreight Avenue Paving.

4,410 sq. yds. street paving.

All bids must contain the full name of every person or company interested and be accompanied by a certified check on some local solvent bank as a guarantee that if the bid is accepted a contract will be entered and its performance properly secured. Plans, specifications, etc., can be secured from the City Engineer, City Building, Springfield, Ohio.

The envelope or wrapper containing said bid must be marked "Bid for Indian Run Storm Water Sewer," or "McCreight Avenue Paving."

The bond required on the sewer is \$10,000 and paving \$1,000.

PROPOSALS

CONTRACTORS

Bids Opened September 12, 1912

for the construction of Section No. 1 of the extension of the Fourth Avenue, Brooklyn, Rapid Transit Railroad of New York City. 5,771 feet of four-track subway in Fourth Avenue, Brooklyn, from 43rd Street to 64th Street.

Also for the construction of Section No. 2, 7,939 feet of two-track subway in Fourth Avenue, Brooklyn, from 64th Street to 89th Street.

Write or call concerning form of contract, plans and specifications.

**PUBLIC SERVICE COMMISSION
FOR THE FIRST DISTRICT**
154 Nassau Street, New York City
(8, 9)

PROPOSALS

CONTRACTORS

Bids Opened September 13, 1912

for the construction of Section No. 1 of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad of New York City.

7,127 feet of three-track subway in 138th Street and Southern Boulevard from Alexander Avenue to about 147th Street.

Write or call concerning form of contract, plans and specifications.

**PUBLIC SERVICE COMMISSION
FOR THE FIRST DISTRICT**
154 Nassau Street, New York City
(8, 9)

PROPOSALS

CURBING AND SEWER

Cartersville, Missouri.

Bids will be received by the City Clerk of Cartersville, Missouri, up to 5 o'clock p. m., Sept. 5, 1912, for the construction of 9090 lineal feet of combined Concrete Curb and Gutter; 2,350 lineal feet of Concrete Side-walks; 5,600 lineal feet of 8 inch sewers. Plans and Specifications on file at the office of the City Clerk. For information, address F. B. Newton, City Engineer, Carthage, Mo. 67.8.97

For Information

or books relating to Municipal Matters
Write Municipal Journal

NOTICE TO CONTRACTORS

STATE OF NEW YORK.

Office of the State Commission of Highways, Albany, N. Y.

Pursuant to the provisions of Chapter 30, Laws of 1909, and Chapter 646, Laws of 1911, sealed proposals will be received by the undersigned at their office, No. 55 Lancaster St., Albany, N. Y., at one o'clock P. M. on Monday the 9th day of September, 1912, for the improvement of the following highways:

County.	Road No.	Name.	Approx. Length.	County.	Road No.	Name.	Approx. Length.
Allegany	5312	Cuba-Friendship, Pt. 2	6.10	Onondaga	5365	Syracuse-Lafayette	7.00
Broome	5339	Binghamton City; Court St.	1.05	Orange	5328	West Point-Central Valley	11.20
Broome	1106	Harpersville-Ouauquaga	5.10	Oswego	5250	Central Sq.-Union Sq., Pt. 1	7.00
Chautauqua	5217	Jamestown-Bemus Point	7.96	Rensselaer	5354	Raymertown-Hoosick, Pt. 2	5.11
Chautauqua	5263	Dewittville-Mayville	5.51	Steuben	5342	Cemetery Hill; Hornell	0.61
Clinton	5197	Plattsburg City	1.79	Steuben	5349	Painted Post-Addison, Pt. 3	4.98
Clinton	5228	Rouses Point Village	2.24	Steuben	5351	Avoca Village	1.50
Columbia	5347	Hillsdale-Copake Iron Works	4.85	Steuben	5353	Hornell City; Canisteo St.	0.24
Delaware	5343	Grand Gorge-Stamford	12.14	Schuyler & Yates	5334	Watkins-Yates County Line	7.57
Delaware	5383	Eastbranch-Troutbrook	2.27	Suffolk	5301	Bayshore-Brookhaven	12.92
Delaware	5384	Margarettsville-Halcottsville	6.23	Tompkins	5379	Ithaca-West Danby, Pt. 1	3.22
Dutchess	5326	Dover Plains-Pawling Town Line, Pt. 2	3.93	Washington	5316	Cambridge-Salem, Pt. 3	3.09
Greene	5367	Catskill-Athens	5.97	Westchester	5321	White Plains-Rye	1.64
Greene	5369	Coxsackie Village	2.31	Westchester	5357	Bronxville Village	0.95
Jefferson-Lewis	5332	Lowville-Carthage	14.33	Westchester	5358	Mt. Vernon City; Columbus Av.	0.28
Lewis	5337	Oneida County Line-Turin	14.77	Westchester	5359	Yonkers City; Central Park Av.	6.48
Madison	5329	Casanovia-Morrisville	10.11	Westchester	5360	East View-Briarcliff Manor	5.04
Niagara	5319	Wrights Corners-Hartland	6.64	Westchester	5361	Briarcliff Manor Village	0.83
Niagara	5381	La Salle Bridge	0.09	Westchester	5362	Tuckahoe Village	0.25
Oneida	5346	Remsen-Boonville Town Line	6.12	Westchester	5363	Peekskill Village	2.27
Oneida	5325	Whitesboro-Trenton	12.37	Westchester	5364	Ossining-Croton River	1.66
				Yates	5324	Dundee-Penn Yan	10.89

Sealed proposals will also be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at one o'clock P. M. on Tuesday the 10th day of September, 1912, for the improvement of the following highways:

County.	Road No.	Name.	Approx. Length.	County.	Road No.	Name.	Approx. Length.
Albany	1105	Albany City; Central Ave.	0.75	Oswego	5382	Fulton-Oswego	12.00
Allegany	5341	Friendship-Belmont	6.80	Saratoga	5313	Stillwater Village	1.30
Broome	5377	Riverside Drive-Binghamton	1.91	Schoharie	5236	Howes Cave-Cobleskill	4.76
Broome	5338	Windsor-Deposit	13.84	Schuyler	5335	Watkins Village; Franklin St.	1.75
Chemung	1095	Elmira City; So. Broadway	1.12	St. Lawrence	5331	Gouverneur Village	1.78
Cattaraugus	5259	Salamanca-Little Valley, Pt. 2	6.86	Steuben	5348	Canisteo-Jasper	12.82
Chautauqua	5245	Bemus Point-Dewittville	5.97	Steuben	5352	Arkport-Dansville	10.38
Chautauqua	5320	Westfield Village	1.07	Suffolk	5232	Smithtown-Port Jefferson	11.25
Clinton	5199	Chazy-Rouses Point	8.25	Sullivan	5322	Monticello-Liberty, Pt. 2	8.45
Clinton	5337	Rouses Point-Canadian Line	2.36	Tioga	5333	Waverly Village	1.28
Delaware	5340	Colchester-Sullivan County Line	8.00	Washington	5336	Salem-Granville, Pt. 2	9.48
Greene	5366	Catskill Village	1.97	Washington	1082	Cambridge Village	1.71
Greene	5368	Athens-Coxsackie	4.06	Westchester	5371	Larchmont Village	0.95
Greene	5370	Coxsackie-Ravenna, Pt. 2	2.70	Westchester	5372	New Rochelle-Mamaroneck	0.73
Jefferson	5344	Carthage Village	2.12	Westchester	5373	Rye Village	2.85
Madison	5330	Morrisville-Bouckville	5.63	Westchester	5374	Pelham-New Rochelle	0.20
Madison	5380	Bouckville-Madison	2.45	Westchester	5375	Pelham Manor Village	1.34
Onondaga	4318	Camillus-Fairmount, Pt. 2	1.20	Westchester	5376	Mamaroneck Village	1.29
Oneida	5345	Trenton-Remsen	5.49	Westchester	(3)5355	Tuckahoe-White Plains, Pt. 1	2.43
Ontario-Yates	5323	Penn Yan-Halls Corners	8.15	Westchester	5356	White Plains Village	2.02
Orleans	5315	Medina Village	2.45	Wayne	5378	Ontario-Center-Williamson	4.50

After August 26, 1912, maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of Division Engineer Spencer J. Stewart, Realty Building, White Plains, N. Y., for highways in the counties of Dutchess, Orange, Suffolk, Sullivan and Westchester; at the office of Division Engineer Paul McCloud, Humane Building, Albany, N. Y., for highways in the counties of Albany, Clinton, Columbia, Greene, Rensselaer, Saratoga, Schoharie and Washington; also at the office of division engineer James H. Sturtevant, Cleveland Building, Watertown, N. Y., for highways in the counties of Jefferson, Lewis, Oneida and St. Lawrence; also at the office of Division Engineer Frederick Steele Strong, 433 South Salina Street, Syracuse, N. Y., for highways in the counties of Madison, Onondaga, Ontario, Oswego, Wayne and Yates; also at the office of Division Engineer James P. Morrissey, 423 Cutler Building, Rochester, N. Y., for highways in the counties of Allegany, Cattaraugus, Chautauqua, Niagara and Orleans; and also at the office of Division Engineer Perry Filkin, 901 Press Building, Binghamton, N. Y., for highways in the counties of Broome, Chemung, Delaware, Schuyler, Steuben, Tioga and Tompkins.

The especial attention of bidders is called to "Information for Proposers" on pages 1 to 10 inclusive, of the specifications.

Proposals for each highway must be presented in a separate sealed envelope endorsed on the outside with the name and number of the highway for which the proposal is made.

Each proposal must be accompanied by a New York draft or certified check payable to the order of the State Commission of Highways for an amount equal to at least five per cent. of the amount of the proposal which such draft or check accompanies. This draft or check will be held by the Commission until the contract and bond are duly executed.

The successful bidder will be required to give a bond for fifty per cent. of the amount of the contract; such bond to be executed by a Surety Company to be approved by the Commission, or a bond secured by the deposit of collateral securities to be approved by the Commission.

The right is reserved to reject any or all bids.

C. GORDON REEL,
Superintendent of Highways.
JOHN A. BENSEL,
State Engineer.
DUNCAN W. PECK,
Superintendent of Public Works.